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St. Bartholomew's Hospital Journal,

AUGUST 14th, 1898.

"Æquam memento rebus in arduis
Servare mentem."—Horace, Book ii, Ode iii.

"**P**ARACELSUS is not dead." Few of those who listened to Professor Kanthack's stirring address at the Abernethian Society could have helped feeling somewhat guilty as he made his onslaught on empiricism in Medicine. Of course we must be empirical in part, or our patients would scarcely be "an unconscionable time a-dying" while waiting for rational treatment. But this does not diminish the force of Professor Kanthack's contention that every objective method of investigation must be carefully cultivated if advance is to be made. Diagnosis may thereby become mechanical, but it rests on surer foundations; a skiagraph will now reveal a renal calculus in a case where formerly the highest clinical skill would have hesitated to diagnose its presence. In the

latter instance it would have been at best but a matter of opinion; this objective method demonstrates it as a matter of fact.

Readers of Montaigne will remember how shrewdly he criticises the physicians of his day on this very point:—"A gentleman was at Paris lately cut for the stone by the order of the physicians, in whose bladder, being accordingly so cut, there was found no more stone than in the palm of his hand; and in the same place a bishop, who was my particular good friend, having been earnestly prest by the major part of the physicians in town, whom he consulted, to suffer himself to be cut, to which also upon their word I used my interest to persuade him; when he was dead and open'd it appeared he had no stone, but in the reins . . . I conclude chirurgery to be much more certain, by reason that it sees and feels what it does, and so goes less by conjecture; whereas the physicians have no speculum matris by which to discover our brains, lungs, and liver." In fact, the essay (chap. xciv) amounts to a strong protest against the Paracelsian method. Not that Montaigne had much hope for or belief in the profession; "whilst they were afraid of stopping a looseness lest they should put him in a fever, they killed me a friend that was worth the whole pack of them put altogether."

The importance of research methods is so great that this aspect of the question will bear a little over statement; for we think it will be admitted that Professor Kanthack, like all special pleaders, has over-stated the case. It is often a pleasing characteristic of scientific men that they are aware of the beam in their own eye rather than of the mote elsewhere. Professor Kanthack deplores the condition of research work in England, while an eminent German Professor of Botany is averring that before long Germans who really want to research will have to go to England or America! And the way that Professor Kanthack falls foul of our reviewer of *Rough Notes on Remedies* shows he only intended to see one side of his remarks. That our reviewer considered it "a melancholy fact that an old-fashioned practitioner . . . will succeed in effecting a cure where a man well versed in motor points and counter-staining will

cut but a sorry figure," in itself indicates his own predilection for the scientific method. It is a melancholy fact that some of the best men, by taking a one-sided view of their work while at the hospital, do fail in what after all in general practice is the most important particular—treatment. Our reviewer was merely pleading that they should take a broader view. But we will not elaborate this point any further, lest Professor Kanthack, in his zeal for reform, should consign us to the same awful fate that he has marked out for that rash man.

Seriously, what we mean is this, that in his anxiety to insist on the undoubted value of laboratory methods Professor Kanthack might be considered by the unwary as unduly depreciating clinical methods. For much that is purely clinical depends on accurate observation and deduction. Few, for instance, would care to-day to depend on the microscope alone for the diagnosis of diphtheria, and he would be a bold man who would send down a report from the laboratory that a given specimen was the blood of pernicious anæmia.

These may be small points, and it is somewhat ungracious to carp at an address so admirable in design and execution. Only those who have been associated with the working of the Abernethian Society can have any idea how much the Society owes to Professor Kanthack's assistance and advice on many matters. The evenings for the communication of original research to which he referred were arranged at his suggestion, and have been the occasions on which some of his own researches have been made public. And now he has added to the sum of our indebtedness by this thoughtful and stimulating mid-session address.

The Science and Art of Medicine.

The Mid-session Address delivered before the Abernethian Society on July 7th, 1898,

By A. A. KANTHACK, M.A., M.D., F.R.C.P., Fellow of King's College and Professor of Pathology in the University of Cambridge.

IT is a pleasure and an honour to me to meet you here to-night in the lecture hall of my old school, where formerly I have both listened to the words of my teachers and have myself made my first serious endeavours of teaching others. You have asked me to address a few words to you, and naturally I have chosen a subject which greatly occupies my mind, viz. the "Science and Art of Medicine."

These words may suggest to you that I propose to give you an exhaustive historical survey of the development of medicine since the days of Hippocrates. This is not my intention, for three reasons. Firstly, I must confess, to my shame it may be, that I know too little of the work of the masters of the past to appear before you with an instructive discourse on the growth and rise of medicine; secondly, even if I did know enough, I should feel that I was encroaching upon the privileges of Dr. Moore, who is always ready to disclose the arcana of the past, and upon those of Mr. D'Arcy Power, who has a profound knowledge of mediæval medical history; thirdly, not having yet reached the age of reflection, it appeals

more to me to study conditions as they are, and as they ought to be, rather than as they have been. "Let the dead bury their dead," those words were spoken to one who still had the future before him.

To-night therefore let us put the hand to the plough, and consider the actual position of medicine and its study in this country, looking back only to learn from the errors of the past the shortcomings of the present, for what was has always been the guide and mentor of what is and should be. I take medicine in its widest sense to include surgery and midwifery, which, though eminent and important subjects, are after all merely specialised parts of general therapeutics. I have chosen the subject "Science and Art of Medicine" not only because it is one which I have deeply at heart, but also, if you pardon the arrogance of a younger man, because I consider it my life's mission to devote all my energy to develop the scientific spirit in medicine, if ever so humbly, by constant appeal to objective methods against which the *ipse dixit* of authority and experience counts but little. In aiming at this, I follow out the precepts of my great master, the immortal Virchow. When I look round and compare ourselves, our institutions, and our methods of teaching with what exist in Germany, France, Italy, Denmark, and even in America, I feel that reform is wanted, that we have feasted on the past too long, and that we must rouse ourselves. Those who are my seniors will see in these words the impetuous ardour of youth, ever finding fault, itself infallible. But older heads are beginning to recognise that the glory is departed from Israel. We have giants like Jenner and Lister, and no doubt the glory of children are their fathers, but we have not made full use of their great discoveries. When the State or the Colonies cry for help, we shake our heads, incapable of giving the assistance asked for. The triumphs which should have been ours belong to others. I am not a pessimist; alas! I am able to substantiate my charges. We must be made to recognise that medicine is a biological science. I have as yet only a few years of independent activity behind me, but them I have spent in teaching, as well as I could, the few who have come to me the application of scientific methods in the practice of medicine. Dealing with masses of students and attempting to break down traditions, progress is slow. The Abernethian Society has assisted me, and I look to it for further help.

When Mr. Stephens was your president he made a new departure, for he introduced meetings at which specimens were shown and original research communicated. So far as I know those evenings have been a great success, and to my mind they are much more useful than the ordinary meetings. Instead of asking a few men to lecture on set subjects or to give you an hour's coaching free of charge, you should encourage original thought and research. I was, however, surprised to hear that recently at one of the meetings of the Society a voice was raised against those special evenings by an old member, young in years, maintaining that they were little short of rubbish, and that the old style of reading second-hand papers was more useful. I was still more surprised when I was told that this young man's criticisms were allowed to pass without an adequate reply. I regret that I was not there to give the retort courteous. This episode is an instance of the imperfection of medical education in this country.

I received another shock when I read in our JOURNAL a review on a book entitled *Rough Notes on Remedies*, in which the enlightened reviewer, who I hope is present here to-night, was permitted to write the following lines:—"It is a melancholy fact that an old-fashioned practitioner who employs only a few drugs, but knows them and their combinations practically, will succeed in effecting a cure where a man well versed in motor points and counter-staining will cut but a sorry figure." This criticism is as rough as the notes on remedies themselves, but it seemed amazing to me to read it in the JOURNAL belonging to St. Bartholomew's Hospital. Let us be thankful that the reviewer has supplied the old-fashioned practitioner with only a few drugs, and let us wish that the reviewer when suffering himself from a disease requiring a subtle diagnosis and rational treatment will seek his old-fashioned friend with his few drugs, for probably there will then be an end of this critic.

There is still a complete misunderstanding regarding the relation of the laboratory to medicine. "In physics and mechanics the notions of the Greeks were very generally pervaded by a great fallacy, which obtained its complete and most mischievous development amongst the mediæval schoolmen, and the remains of whose influence can be traced even at the present day—the fallacy of a double system of natural laws; one theoretical, geometrical, rational, discoverable by contemplation, applicable to celestial, æthereal, indestructible bodies, and being an object of the noble and liberal arts; the other practical, mechanical, empirical, discoverable by experience, applicable to terrestrial, gross, destructible bodies, and

being an object of what were once called the vulgar and sordid arts." This fallacy of a double system certainly exists in medicine at the present time. Distinctions are drawn between the good practical man and the theoretical man, between pathology for physicians and pathology for pathologists, where distinctions do not and cannot exist, and still you may hear in some quarters of objections raised against a scientific or rather a laboratory training for the medical student. I have heard the statement made that it is the duty of medical schools to educate physicians, surgeons, and midwives, and not pathologists, bacteriologists, or physiologists. Why, then, should the money be wasted on laboratories?

The relation of science to medicine therefore requires closer definition. My object to-night is to make a strong appeal in favour of laboratories, and to urge you to spend as much time as possible in the laboratories. Whatever idea you may have regarding a patient, if your idea can be demonstrated objectively it is your duty to do it, even though it seem altogether unnecessary.

We must begin by considering the true position of medicine as a profession, or rather as a calling. Commonly we speak of the art of medicine when we should say the practice of medicine. The treatment of disease is a technical matter which, if a correct diagnosis is supplied, in most cases is comparatively easy, in fact often so easy that even difficult cases, once recognised, could be treated as well by a sister or nurse with years of experience as by a physician of the same standing. In surgery experience and natural skill are everything. The surgeon in so far as he operates and does his ordinary routine work is an artisan. We may say with some justice that practical medicine is a technical industry.

A technical industry may be learned in two ways: first, merely by experience based on a rule of thumb principle, which is the English way; secondly, by experience based on systematic research, which is the German way. This distinction will be readily understood if we briefly consider the relation of some technical industry like brewing to research.

The theoretical and practical problems in this industry go hand in hand, and are frequently inseparable. This has been amply demonstrated by Hansen's labours at Copenhagen. Before he commenced work the yeast question in brewing was a perfect enigma, and, as he himself has said, it was the weakest point in brewing. To cite his own words, "when difficulties occurred in a brewery a change of yeast was introduced from another brewery, and frequently the yeasts from several breweries were mixed. Sometimes a good result was obtained in this way, sometimes also a bad one, and often the result was worse than that which induced the brewer to try a change of yeast. In all cases he was working completely in the dark—in short, he did not know in the least what he was introducing into the wort." Hansen, following in the footsteps of the great Pasteur, and ever keeping in mind that brewing is but the practical application of biochemical principles, took up the scientific aspect and worked indefatigably until he had discovered the mystery of practical brewing. Ruthlessly he overthrew empirical beliefs, some of which were almost centuries old; he showed how to avoid disease in fermenting liquors, and in fact he revolutionised the industry of brewing and fermentation generally. Hansen's work, just like that of Pasteur's great genius, has had the most beneficent influence upon medicine. Infection is a form of fermentation, and its result a form of intoxication, and until we understand fermentation we cannot hope to understand infection.

The discoveries of Hansen, of Fischer, of E. Buchner, and others have given us new ideas regarding the possible nature and action of the bacterial poisons which are responsible for many infective fevers. Through these researches we are gradually approaching the question which must occupy every thinking man: What are the substances which cause pneumonia, diphtheria, tetanus, and so forth? How exactly do they work? If we once know their chemical nature and formula, we may hope to find methods of cure and prevention which surpass the triumphs of the antitoxic treatment of diphtheria. It has been said by a physiologist lecturing at the Royal Institution that a monument should be erected to honour the nimble frog as a saviour of human suffering. This beautiful little animal, with its fine muscles and ever-beating heart, is inseparably associated with physiology, pathology, and pharmacology, the fundamental sciences of medicine. No doubt such a monument would horrify the intolerant and ignorant antivivisectionist. Yet I think that however great the distinguished services of the frog are, the yeast cell is as deserving, for it is the study of fermentation that has led to the most wonderful discoveries in medicine during the last fifty years, which have saved thousands of lives in almost every country.

But to go back to Hansen. Denmark recognised the enormous value of the systematic scientific researches which Hansen and his

pupils had carried out and are still engaged in. Laboratories were opened and brewers thoroughly instructed in the scientific foundations of their technical industry; not by lectures merely and examinations, but by real laboratory work. In Germany also, as well as in Austria, technical laboratories sprang up; and the laboratory study of fermentation became a serious matter. The result is that in those countries they are reaping a well-deserved harvest. In this country, as usual in such matters, reform is slow, because we draw distinctions between practical and scientific men. Gradually, after years, when other countries have already made rapid strides, a few enlightened men in vain recognise that things are not as they ought to be. For years young men have gone to Copenhagen, Berlin, Vienna, or elsewhere on the Continent to study the scientific side of brewing, and possibly they may have to do so for many more years, unless Mr. Chamberlain comes to the rescue. In England the young brewer is taught in the most inadequate manner by disciples of the Institute of Brewing, which is governed by tradition; he is not taught the cultivation of yeasts, or how to diagnose disease; in fact, all he learns is, putting it briefly, that when anything goes wrong he must consult the Institute of Brewing. Quite recently the question was raised whether a school of brewing on the Continental pattern, *i. e.* a genuine research laboratory, was a necessity. One would have thought that the answer was obvious.

But let us hear what the *Brewers' Journal* says. I wish to quote it because almost every word I say now *mutatis mutandis* can be applied to the case of medicine. That journal writes: "Are not the wants as regards education already fully met? The functions of an institute suitable for the brewing trade should be confined to the dissemination of useful information, to the discussion of suitable questions, and to the interchange of ideas calculated to benefit the trade. It should invite eminent foreigners to give lectures and to read papers, and it should set the curriculum of education which young men desirous of becoming brewers should be asked to undergo. This curriculum should be expressed in terms of an examination conducted by the institute, and the institute should have the power of granting certificates. The surest way of keeping the teachers up to the mark would be to let them each strive to pass the greatest number of students." The *Journal* further thinks "that the school of brewing would be an endeavour to copy that which has been done abroad, but it would be well before English brewers commit themselves to inquire as to what really has been effected by these schools as compared with the teaching hitherto obtainable in England."

All this is so characteristic of the English attitude against the necessary combination of technical practice with scientific research that I have delayed so long over the subject of brewing. We find the same apathy in other technical industries, as, for instance, the chemical industry, or even engineering. In our country no opportunity is given to learn, no attention is paid to systematic scientific research and technical education. While here everything is sacrificed to abstract mental improvement and useless examinations, abroad the scientific training is meant for real use and application.

Let me read out to you what Sir Philip Magnus wrote in a recent number of *Nature*:—"It is not only in the size and arrangements of buildings devoted to science that we in England are so far behind our German and Swiss neighbours, but also in the organisation of the instruction. In some of our best schools at home each professor has to do the work of three or four experts abroad. It is the combination of professional work and the co-ordination of teaching that make the German university so powerful a machine not only for scientific training, but also for discovery and research."

No one can doubt that Germany has made enormous strides in recent years, and our leading men of science have recognised this, and they attribute this fact mainly to the existence and encouragement of research in Germany. In a little book by Mr. Williams, entitled *Made in Germany*, we read:—"The great cause of German success is an alert progressiveness, contrasting brilliantly with the conservative stupor of ourselves. It is all very well to run an old-established business, but you must diligently and continuously be striving to bring its methods up to date. The mass of English people still believes that what was good enough of old is good enough yet; ignores the constant change of condition which renders the nature and wants of the market as variable as the weather. In Germany they are ready at all times to make a new departure."

The same progress may be observed in other Continental countries, though nowhere so strikingly as in Germany. One country, however, deserves our unbounded admiration—that is little Denmark. She has proved to the world that she can take her earnest share of the work of progress, and as Hansen—himself a Dane—says with just pride, "Notwithstanding all political reverses, the little nation is still able to develop and carry out independent scientific research."

To give you an instance of the progressiveness and adaptability abroad, of the readiness to apply scientific facts to industry, I shall now mention to you the marvellous work of Professor Bang. Denmark depends greatly upon its export of milk, butter, and cheese; and when bacteriology proved the close ætiological relation between phthisis and the milk of tuberculous cows, the Danish Government took action in combating tuberculosis amongst cattle. Tuberculin was used for the purpose of diagnosis, and any cow, calf, or bull which reacted with fever to an injection with tuberculin was at once isolated. "By merely separating, therefore, the sound from the reacting animals, feeding the calves from the first day of life on boiled milk, submitting once or twice a year the healthy animals to a fresh test, placing such as react on the other side of a partition, and purchasing only animals that have stood the tuberculin test," Bang has succeeded in changing herds that had been markedly affected into herds which are quite healthy. The tuberculin used in the country is manufactured in a laboratory which receives from the Government a subvention for the purpose, and so great has been the demand for it that sometimes difficulty has been experienced in furnishing enough. In this manner over 5000 herds have been treated, and these are now almost free of the disease. Let us compare that with what goes on among ourselves. We have as yet got no further than official reports of Royal Commissions.

Time forbids that I should allude to other countries where this method of diagnosing and treating tuberculosis is recognised and applied. What I wish to prove to you is the quickness with which poorer countries seize the knowledge which has been acquired by patient, laborious, and often disinterested work, and use it for the good of the individual, the community, the State, and its commerce, not to mention the animals themselves. Why do not we recognise the benefit which must accrue from such progressive adaptation? The answer is because we do not know what systematic research is, and the State has not yet taken in the situation.

Let me give you a few more examples to illustrate our deficiencies. Rinderpest plays havoc in South Africa, decimating the cattle and ruining hundreds of people. Professor Koch had to go out to bring the assistance which the mother country could not give. The vaccinations against cholera in India had to be carried out by a Russian, M. Haffkine. When the bubonic plague broke out, Germany, France, Austria, Russia, Italy—they all sent out commissions to investigate the disease in its home. These commissions consisted of leading men of science, including such well-known names as Pfeiffer, Gaffky, Lustig, Gohn men of established reputation and of research. We, on the other hand, have watched the approach and the progress of the plague, but serious investigation was left to others. When plague appeared in India the Indian Medical Department was practically unprepared and unacquainted with the bacillus of bubonic plague. Our friends in India on the whole have failed to make use of their opportunities. Thus the cholera vibrio was discovered by Professor Koch, the malarial parasite belongs to France and Italy, the discovery of an antitoxin for snake poison was left to M. Calmette. Hardly any researches on leprosy or on malaria have come from India. No doubt there are a few stray papers written here or there, but no systematic and continued research has been carried on, while other countries have always been busy erecting research laboratories in their colonies. I do not blame the individual men who go out to India or elsewhere—it is not their fault, poor fellows. They have not been taught the methods of research; they pass from institutions where research counts little into an atmosphere of statistics and sanitary reports wherein research counts still less; moreover, they are generally overworked in a climate which is hardly stimulating. Research work to bear fruit must be systematic, and not spasmodic. How different are the conditions in the German and French colonies. The Germans and the Frenchmen may be bad colonisers, but they recognise the importance of the public health, of studying the endemic diseases, and of preventing them if possible. We may say without fearing contradiction that the work which has come from German East Africa during the few years that the Germans have been in possession is of greater value than all the work which has emanated from India for years. You must understand, of course, that I am speaking of medicine. It was only recently that Professor Koch has returned from a long voyage, passing from the Cape, where he had studied rinderpest, to India, where he studied plague and advised on other endemic diseases, and going thence to German East Africa, studying malaria and other endemic affections in man and animals. He returns having given a fresh impetus to German medical research, and having conquered the rinderpest in a few weeks.

Why do not we send out men? For two obvious reasons, viz. (1) as yet they have but seldom been required for the purpose of carrying out systematic research, and (2) when they are required we

have no men to send out; we do not train research men. That means that our medical education is not all it should be. That is exactly what I wish to say, although I know it is not easy to say it here within the precincts of the ancient, royal, and religious foundation of St. Bartholomew's Hospital. My criticisms, however, are not directed against any particular school or university, but against our whole system of medical education.

The teaching of medicine is in the hands of medical schools, and I feel strongly that it is partly for this reason that the scientific side of medicine has not been fully recognised. Being attached to hospitals, and the teaching having been evolved from the principle of apprenticeship, practical medicine, practical surgery, and practical midwifery are recognised as the leading subjects. On the road to these subjects spasmodic research in physiology, anatomy, or pathology may be done, but mainly for the distinct purpose of "getting on." Our university schools are naturally modelled after the hospital schools. This is the fault of tradition, and of old age. A hospital medical school has a perfect right to say, it is not our duty to bring up experimental physiologists, pathologists, or bacteriologists—that should be done by the universities; but alas! the latter follow the old traditions. What I wish to urge is that on their own lines the medical schools should encourage systematic research, for practical medicine is essentially the technical application of scientific principles, and therefore requires a sound, though no doubt often specialised, scientific foundation.

Medicine began with treatment, and during the Middle Ages outside therapeutics very little indeed was taught or thought necessary, so that for centuries there existed no science of medicine. It was not until Vesalius appeared that medicine showed any tendency to pass from a mere empirical "healing art"—if indeed we can call mediæval treatment an art—to a form of natural science; but not until the end of last century were experimental methods introduced, i.e. since about 1750 medicine has gradually passed from a descriptive science to an experimental science.

How far the art of healing could progress, and actually did progress, without almost any knowledge of anatomy and physiology, the study of the therapeutics of Hippocrates and his disciples will teach us. This may be a consolation for those who find great difficulty and obstacles in acquiring the necessary knowledge of anatomy and physiology. Hippocrates was, as Galen said, πάντων ἡμῖν τῶν καλῶν ἡγεμῶν, "our guide in all that is beautiful," and for centuries he has been called the *divus pater medicinæ*, mainly because he recognised a scientific principle, viz. that "the body naturally resists disease, and that diseases have a tendency to cure themselves," and that "interference is only necessary to assist or inhibit these tendencies." *Quo natura vergit, eo tendere oportet*, "follow nature, she will heal;" "the physician shall help, but in no case injure," these are axioms of the Hippocratic school. Hippocrates severed medicine from philosophy and theology, and rejecting all that was supernatural, he discovered the one principle which guides medicine now, and must ever guide it. In spite of Aristotle, Herophilus, Erasistratus, and Eudemus, who all studied anatomy, no progress was made, but on the other hand a marked reaction to empiricism recurred. Hippocrates and his enlightened followers knew the scientific principle, but not the scientific method. The systematic pursuit of anatomy no doubt would have led to marvellous results, but it was then as it is now. The average mind, always ready to accept whatever offers some promise of success, had expected immediate results from the study of anatomy, so that disappointment and disgust were bound to follow, and the very disciples of the early anatomists founded the empirical school, which, ruling for centuries, has done an infinite amount of harm to medicine, and even now delays its progress. The empiricists restricted medicine, and the study of medicine, exclusively to the attainment of practical and tangible results. They considered it useless to attempt a minute analysis of the ultimate causes and processes of the phenomena of disease. Their axiom was *non interesse quid morbum faciat, sed quid morbum tollat*, "it matters not what produces the disease, we wish to know how to remove it." This attitude towards anatomy—the very foundation of medicine—was fatal, and has delayed its progress for at least 1500 years. With Professor Samuel we may pause in amazement and ask how was it possible that the fortunate discovery of a scientific principle could be followed by such narrow and unscientific prejudice? Bitter experience has taught mankind that only continued and searching labours can lead to knowledge, and that the road to knowledge which a natural science must tread is very circuitous, and for years, nay, for centuries, may appear to lead nowhere! Hippocrates had freed medicine from the fetters of theology, and the precocious study of anatomy immediately followed upon this; but the prize was rejected, and 1500 years later anatomy

had to be reconquered after a long and laborious struggle against religious sentiment and prejudice. This is a cruel lesson which history has taught, and yet there is a tendency to turn a deaf ear to it.

Now, true to my promise, I shall not take you over the whole development of medicine as a science. I wished to remind you how a golden opportunity may be lost by narrow-mindedness and want of intellect. What happened in the case of anatomy has happened with physiology. Galen was the actual founder of experimental physiology, and even without anatomy, chemistry, physics, and microscopes, great advances might have been made. But no, it was not to be; empiricism ruled everything, and systematic research was not carried out upon the lines suggested by Galen.

With the resuscitation of anatomy medicine became exacter, but it took a long time before anatomical research became general. Thus in Vienna, in our times one of the most progressive centres of medicine, between 1404 and 1498 only nine bodies were dissected, and the dissections were generally performed publicly in this manner: the barber cut, the professor demonstrated, dissecting being too low and humiliating a task for a professor. Vesalius recognised the absolute necessity of scientific study, and fought against book learning. He vigorously attacked the accepted infallibility of Galen, whose teaching by actual inspection and personal experiment he proved to be wrong. Through his courage and martyrdom, and his victory over transcendental theories, he gained the day for the systematic study of anatomy, and in 1556 the University of Salamanca recognised dissections as indispensable. Fortunately the requirements of surgery, which had been emphasised through the introduction of gunpowder, insured the continued study of practical anatomy. Before Vesalius, in the fourteenth century, Guy de Chauliac already wrote: "*Primo enim opus est, ut chirurgus cognoscat res naturales, præcipe anatomiam; nam sine ipsa nil est faciendum in chirurgia.*" But even an age which could boast of an Ambroise Paré did not apply scientific methods to test the value of a treatment, but was guided by theoretical prejudice. It was by a mere accident and not by an experiment that Paré discovered his simple treatment of wounds. So it had been for centuries; diseases and inadequate or erroneous methods of treatment went on unchanged, because there was no science of medicine, and often a sheer accident brought a happy turn for the better. However, when anatomy was placed on a sounder basis, and when Harvey, after having confessed at the beginning of his fruitful life *motum cordis soli deo cognitum esse*, established the doctrine and also the unalterable fact of the circulation, and thus restored experimental physiology, not merely by his results, but, what is much more important, by his method, then we perceive the early dawn of the science of medicine.

Vesalius and Harvey were men of science. Compare with them Paracelsus. This strange man has been called the true prophet of modern medicine as of modern chemistry, but I cannot believe that he shared the higher feelings of the true masters of medicine. He was an alchemist, and professed that "true alchemy has but one end and object—to extract the quintessence of things and to prepare arcana, tinctures, and elixirs which may restore to man the health and soundness he has lost." Unlike Vesalius and Harvey, he was not a scientist, and his methods were crude and irrational. Yet Theophrastus Bombastus Paracelsus von Hohenheim, ever blowing his own trumpet, styled himself the reformer of practical medicine. He certainly fought against book learning and Galen's dogmas—and for this honour is due to him—and he believed in Nature's methods of healing; but, being devoid of the true spirit of inquiry, he contributed but little to the actual progress of medicine. With him Nature's methods of healing were artificial and extrinsic. Indeed, I believe that he has obtained the position which many concede to him merely by his fine speeches, mainly about himself and his alchemy; and always doubting others, but never himself, he often judged them rightly, himself too well. Science was nothing to him; art, i. e. his art, everything; the value of anatomy and physiology he denied altogether. Characteristic of such a man is that he said, "So far as a knowledge of remedies for epilepsy and jaundice is concerned, it matters not where brain and liver are!" He believed that Nature has a remedy for each disease; the whole world is a pharmacy, and God the first pharmacist, since He created the plants, which all are remedies. Diseases are to be named according to the remedies used. Thus we should say, this is *Morbus terebinthus* and that *Morbus helleborinus*, and not this is *coryza* and that *catarrh*! This is grotesque; yet Paracelsus is not dead, he still lives amongst us.

The awakening of anatomy and physiology, however, has led to progress in medicine; not, indeed, in a straight and direct line. No, the advance was slow, and often what seemed a short cut led nowhere,

or into a quagmire which threatened to absorb those that had been betrayed to tread upon its false foundation. For three hundred years, however, continued research was carried on, and it was further stimulated by the discovery and development of the microscope and the application of other natural sciences to medicine. But still the methods were wrong. Of systems of medicine, like text-books with us, there were many, but no systematic research. Pathology and therapeutics were tossed about by these systems because the basis of each system was not the knowledge of the causes and processes of disease, but the amount of success obtained by a particular form of treatment of disease. Practical medicine followed the systems propounded by the great masters, and, as Professor Samuel says, "it was indeed fortunate when such system perchance required but little blood, or sought to attain its curative results with an approximately reasonable quantity of emetics or a fairly moderate number of clysters."

But the anatomy of disease was still neglected, and thus no progress could be made. Halfway through the eighteenth century, however, Morgagni laid the foundation of morbid anatomy, and John Hunter that of experimental pathology, and this led to more systematic research into the processes of disease and thus to more exact generalisations. Indeed before the end of the eighteenth century had passed away, Bichat of Paris had already shown that similar tissues when diseased show similar morbid changes. Such knowledge could only be gained by systematic research and by objective methods of investigation. The latter were soon carried into clinical diagnosis, which until then, so far as lesions were not obvious and on the surface, was purely subjective. The introduction of percussion in 1807, and of auscultation in 1818, led the physician to apply physical and chemical methods to the diagnosis of disease, and from this time we may date the struggle of medicine to become an exact science, that is, to become as objective as possible. Clinical thermometry was introduced soon after, but how slow the progress and how hard the struggle for exactitude was will be understood when I tell you that the very physician who first applied the thermometer in clinical diagnosis himself believed in witches and witchcraft.

Medicine, in spite of all difficulties, now gradually became experimental; attempts were made to grasp as well as to regulate the action of the human machine. Chemistry and physics were eagerly applied, new laws and functions were discovered, and a healthy scepticism appeared. Since then active work has continued, and in our times empiricism pure and simple is discredited. The lesson we learn from this short review is that it was not a single happy discovery or a chance impulse which has raised medicine to its present level, but systematic research and labour. It is this which has made our progress during the nineteenth century so phenomenal. This century, and especially the latter half, has indeed achieved more than all previous centuries together.

It was fortunate that homeopathy, mesmerism, spiritualism, and hypnotism appeared at a time when the methods of medicine had become more scientific and objective. The new medicine, young though she was, resisted their onslaught; her foundations were shaken and required vigorous defence, but the progress of medicine as a science fortunately was not even delayed by them; in fact, homeopathy, which has never been the slightest use to any individual, became useful to mankind in that it contributed to the recognition of the expectant method of treatment, i. e. the Art of Doing Nothing, which, according to a great physician at this hospital, no longer in our midst, Dr. Matthews Duncan, is the most difficult task in medicine. The mystery of the "infinitesimal," and not the proposition *similia similibus*, gave homeopathy a start. Mysticism is always a danger, and as my honoured master Virchow has said: "The tendency towards mysticism is so deeply rooted in human nature that there is hardly a time when it does not come to light. Then even educated persons sink into a state of thoughtless and illogical incapacity of such dimensions as one would suppose to find only in savages." Science, however, will conquer; she is too powerful, and this century has recognised that progress is possible only if we follow the known laws of Nature instead of hoping to obtain privileged manifestations of the supernatural.

At the end of this century, after long labours, we have by no means reached the coveted goal, i. e. the establishment of medicine as an exact biological science; but we find ourselves in the midst of an ever-growing number of industrious workers, and in the possession of new methods and increased facilities for investigation. And if we ask ourselves what has caused this rapid progress of medicine, the answer must be the systematic study of pathology in all its parts, including the anatomy, physiology, biology, physics, and chemistry of disease. At the beginning of this century England, thanks to the

efforts of John Hunter, and thanks to the existence of large hospitals, had made great strides in pathology and occupied the leading position in medicine. The rise of pathology in Paris under Bichat and his pupils soon made the Paris medical school the first in the world, but the reputation of English medicine at that time was so high that Virchow, commenting on Paris, writes, "The French school enjoyed such a good name that even Englishmen went there to be taught." Would Virchow use this little word now? I can assure you that he could not. Until 1830 it was considered a special advantage to study in Paris.

Paris was displaced by Vienna through the efforts of Rokitsansky, the Professor of Pathology, whose teachings were regarded the true foundation of practical medicine. It was then that Virchow appeared and preached the gospel of cellular pathology. Medicine at last became a true natural science. Systems and schools were banished, observation and experiment ruled supreme, and the *ipse dixit* of established authorities was no longer blindly accepted. Now Germany took the lead in medicine, and she has kept it, because she has recognised that practical medicine cannot succeed without systematic research in pathology; for, as Virchow says, "the same substance which carries life also carries disease," and "therefore it behoves us to investigate the seat of disease and the organs attacked by the disease, not only with knife in hand, but also by means of experiment and clinical research." In Germany this is so well recognised that every German medical school has its pathological and bacteriological laboratory, and almost every clinical institution its research laboratory. By the aid of such laboratories Germany has secured since the middle of this century the palm for scientific education and discovery. A laboratory is not, however, a place merely for the purpose of teaching students to pass examinations; its main purpose should be to do research, and by doing it to encourage and teach them to pursue research.

Let it be well understood that the history of practical medicine teaches us that without systematic research the technical practice of medicine—that is, "clinical medicine"—cannot progress; and let us honestly ask ourselves whether we in England have fully recognised the importance of systematic research. The answer must be an emphatic No! Being governed by the tyranny of examinations and curricula, we teach the students by syllabus and schedule as much anatomy and physiology as we can; we hurry them into the wards and neglect pathology and pharmacology, *i. e.* the causes and processes of disease, and the principles—not the traditions—of treatment. They are not encouraged to employ every possible objective method of diagnosis, but are led to believe in the mysterious power of clinical experience. As I have said before, Paracelsus is not yet dead. He snatches incomplete researches out of the laboratories, and applies them in the treatment of diseases, the pathology of which he does not understand. And his influence makes itself felt in the laboratories, to the discredit of medicine. Look at the number of organic extracts which are even now being used to allay vague symptoms. Yet, if we except the juice or extract of the thyroid gland for cachexia strumipriva, what actual and experimental evidence is there to justify this new fashion? It is to our credit that in this country we have been moderate in the use of these tissue extracts, which remind us of the elixirs of Paracelsus, to restore to man the health and soundness he has lost.

I wish to make a strong plea for the scientific investigation of disease in the wards, for clinical pathology, which is the application of chemistry, physics, histology, physiology, and pathology to diagnosis, prognosis, and methods of treatment. The questioning voice, the listening ear, the percussing and palpating hand, and the memory of fifty years' practice are not enough. Every symptom, every hidden change which can be demonstrated wholly or in part must be presented objectively, even if it be almost obvious. Phthisis may be written on a haggard face with burning signs as ominous as the writing on the wall; nevertheless the sputum should be examined, not merely to demonstrate the tubercle bacillus, but also other organisms and elements, so that we may learn and record what is taking place in the lungs. Just as the student is taught to use the stethoscope and to percuss, even where the diagnosis can be made without these aids, so also he should be taught always and at all times to examine everything that can be examined by methods carefully elaborated and simplified in the laboratory. Pathology is not a subject of secondary importance, inferior to practical medicine or surgery; it is the foundation of diagnosis, treatment, and prognosis. Why has this not been recognised in England? It certainly has not been recognised. I can speak with some authority upon this subject, for although only a young man with limited experience, since I was associated with this foundation I have strained every nerve to preach clinical pathology to men younger than

myself. This hospital, I am proud to say, thanks to its enlightened physicians and surgeons, has recognised the importance of clinical pathology more clearly than other hospitals. But neither here nor elsewhere is clinical pathology practised as it ought to be practised—that is, all day long.

Yet if you know your methods, and know how to interpret your results, you will often be able to make a diagnosis or to cast a prognosis with a conviction more certain than that of years of experience. The interpretation of the results and their limitation, those matters are arrived at by years of systematic work in the laboratories. Some of you, I regret to say not all, are familiar with the methods and importance of blood examination. No case of anemia should ever pass into your hands without a complete hæmatological investigation being made. You may say, "Why? We can diagnose anemia, at least many of its forms, without it, and our predecessors never troubled about such things." Quite so; but you know more about the case when you have examined the blood, and you may find once in a way that you have made a mistake, or you may be able to gain decisive information regarding the prognosis. And it is your bounden duty in dealing with a case to learn whatever *can* be learnt, for the sake of your patient, for your own sake, and for the sake of medicine as a science. You use the stethoscope, laryngoscope, ophthalmoscope, why not the microscope and the test-tube?

Times have changed. Practical medicine has been profoundly influenced by the unparalleled development of the medical sciences; scientific methods must pass from the laboratory to the hospital; cases must be studied with the aid of physical and chemical, microscopical and bacteriological methods. Thereby the diagnosis of disease can be greatly advanced in precision. Medicine is no longer an empirical art, it is a science,—not exact yet, by any means, but we must do all that is in our power to make it so. I am not merely preaching a gospel of idealism, where virtue is its own reward. It is not human nature to follow an ideal unless there is a material reason for doing so. But he who knows his clinical pathology is better equipped than his neighbour who only possesses a stethoscope, which probably is often deaf, or murmurs like an empty shell. A thorough knowledge of clinical pathology considerably shortens the period of experience which is required to make you into good physicians or diagnosticians, for, as Boerhaave justly said, "*qui bene diagnosticit, bene medebitur.*"

My grievance is that in this country the importance of research in the wards has not been as fully appreciated as it has been in Germany, for instance, and in America. Those of you who know me well must remember that I always speak with admiration of the Johns Hopkins Hospital in Baltimore. There in every case systematic legitimate research is carried on in the wards, whether this be chemical, bacteriological, histological, or physical; similarly systematic research is carried on in the deadhouse. There also every case is examined as thoroughly as it can be. And what is the result? The Johns Hopkins is one of the best hospitals in the world, and it is turning out a set of men of considerable ability, of a higher average than we can attain here with less perfect methods. It therefore fulfils the highest object of an educational establishment, that is to turn out good men, keeping its best alumni for its own welfare. Medicine is a science, and therefore it must be handled as a science. I do not mean that distressing and senseless experiments should be made on the patients, but a student should do more than copy the house physician's notes or ask the nurse how the patient has slept. Instead of casting a disgusted look into the sputum pot, he should investigate its nauseous contents. Instead of taking things up to the pathological department, the house physicians and house surgeons, with their clerks and dressers, should know how to do the investigations themselves. In the words of the famous Moravian, Amos Comenius, "they must learn and investigate the things themselves, and not merely the observations and testimonies of other persons concerning the things."

It may be objected that to work in this manner would require a large staff of men, an increased number of laboratories, and an increased expenditure. No doubt it would, and that is what I should like to see. There should be clinical laboratories, and a laboratory in connection with the post-mortem room. Professor Welch, of the Johns Hopkins, in an address delivered some two years ago, said, "At the present day no country, no university, no medical school can hold even a respectable place in the march of education and progress unless it is provided with suitable laboratories for scientific work." I should have thought that this must be obvious to everybody. But what is most required is a revolution in our teaching and examinations. The latter, unfortunately, govern everything, and tend to hinder progress. I am not, however, here to discuss examinations, or even to suggest the means by which my ideal can

be reached. What I wished to do was to represent to you, in however an imperfect manner, that medicine is passing from an empirical system—I cannot call that an art—to a science. We have recognised its true scientific basis; and its practice, like that of any technical industry based upon science, can only be followed and developed by strict attention to systematic research, not with the view of hitting upon a lucky discovery, but for the purpose of learning the methods and of collecting facts. Once more to quote Virchow, "Whatever can be observed, it is our duty to observe well and to retain faithfully. That is the method which the latter half of this century has entrusted to us." Medicine, and especially pathology, its foundation, is a biological science; this is a conviction which we have to carry into the next century, for thus only can practical medicine advance. Pathetically the veteran sums up the labours of fifty years in these words: "The consciousness that this conviction will survive me is the solace of my old age." Why should we lag behind, forgetting that a hundred years ago we were the pioneers, and not the stragglers? In medicine art can never be separated from science. Medical art can never be more or less than a science working with technical appliances; it is not independent, but simply follows out the indications of science. This being so, I cannot do better than conclude with the words of Bako, Harvey's contemporary, *Nam et ipsa scientia potentia est.*

On the Evidences of an Early Tubal Gestation before and after Rupture of the Sac.

A Paper read before the Abernethian Society, Feb. 3rd, 1898,
by W. GLADSTONE CLARK, F.R.C.S.

(Continued from page 149.)



E may now leave the biographical side of the diagnosis and turn to the facts as they may present themselves to the observer; and these may be considered under three heads as they point to a pregnancy, to a pelvic disease, or to a general affection of the patient.

The diagnosis of pregnancy must always be difficult, and there is unfortunately little to add to what we have already noticed under the heading of amenorrhœa. Next in importance comes the state of the breasts, where the most that can be expected is a little mucoid secretion; and this, though frequent, may be of doubtful significance. I would remind you that we are only taking account of the early cases from the time of conception up to and including the crisis produced by primary or secondary rupture of the sac, for in the late cases there can hardly be any real doubt as to the existence of pregnancy; the difficulty then is to prove that the pregnancy is extra-uterine. It is also unusual to find marked changes in the coloration of the vulva and cervix, but a slight softening of the cervix in the neighbourhood of the external os is not uncommon, and when present is extremely useful. The uterus is always slightly enlarged, but this is at first always within the limits of bulk of the unimpregnated uterus, and even later it is difficult to make a positive estimate of size in the absence of the use of the sound, which must be regarded as contra-indicated by the history of amenorrhœa.

The evidence of pelvic disease is very slight before rupture of the sac. In the early weeks, should an examination be called for, the physician may feel the distended tube in one or other posterior quarter of the pelvis, as a small, rounded, moveable body, which hardly admits of differentiation from other morbid conditions of the appendages, or in many cases from the normal appendages themselves. In other cases no such swelling can be felt. Thus a woman with a doubtful history was examined in the out-patient department, and nothing abnormal discovered. The next day she had an attack of faintness and pain. She remained in bed, and when next examined, after the lapse of a fortnight, was found to be suffering from a large hæmatocele, which afterwards became absorbed. Should the rupture be long delayed, an enlargement of the tube up to the size of an orange, or even larger, may be made out, which, with the presence of other signs and symptoms, may justify an exploratory operation on the probability of its serious origin. I think that few, if any, English diagnosticians would care to advance a more decided opinion.

Immediately after rupture the pelvic examination gives an entirely negative result, but if the hæmorrhage be severe, signs of free fluid rapidly become recognisable. In a greater number of instances nothing can be made out for twenty-four to forty-eight hours, when the clotting of the effused blood renders palpation of the hæmatocele possible. This varies greatly in size, in some cases being confined to the true pelvis, in many others extending as high as the umbilicus. That part of the swelling in the pelvis may be felt either behind the uterus or occupying a more lateral situation. If it occupy the position of a parametritis it may be supposed that it will become evident to palpation sooner than if in the free peritoneal cavity; but, on the other hand, hæmorrhage into the broad ligament tends to be less rapid in its course. If we have to determine from palpation that the swelling under our observation is blood, we have a very difficult task before us. The chief points about the sensations received from a hæmatocele are—firstly, its lack of exact boundaries, which helps to exclude an actual tumour, such as an ovarian tumour or distended tube, but which helps to include those cases of peritonitis which are accompanied by a swelling of considerable thickness. In both of these a rectal examination may reveal the fact that the swelling is limited by the lower boundaries of the peritoneum. As a part of the same lack of definition, the outline of the displaced uterus is usually undeterminable. The second feature is its varying consistency, in parts giving the sensation of fluid, in others, perhaps, of a firm solid, or else an intermediate resistance, most often described as "doughy." That a hæmatocele does in many cases present a peculiar resistance of its own can hardly be denied, but it is equally beyond doubt that the perception of this quality can only be acquired as the result of a very long apprenticeship.

This brings us to the third group of signs—the signs of a general affection of the patient, the signs of a serious loss of blood. These, though of the highest importance in this condition and in certain surgical and medical conditions, such as bleeding into the peritoneum as a result of injury, or into the alimentary canal as a result of ulceration, and presenting a sufficiently striking clinical picture, are to my mind too little brought before the student and—I say it with a certain trepidation—before the qualified practitioner. Is it too much to ask you to believe that a severe and almost fatal hæmorrhage into the abdomen has been diagnosed as colic? or that such a condition may frequently be attributed to inflammation (meaning peri- or parametritis)? or that in the case of the girl of nineteen, to whom I have already referred, and who died in a few hours from the hæmorrhage of a ruptured tubal gestation, the symptoms were attributed to hysteria? I think that a great number of these mistakes may be attributed to the habitual attitude of mind of the individual, and that most men are a great deal more dependent on the actual sight of blood for the diagnosis of serious hæmorrhage than they are aware, or else upon a knowledge of the course of any particular disease, or of the probable results of an injury. Such an unconscious train of reasoning would undoubtedly explain the readiness with which hæmorrhage from an unaccustomed source may be overlooked even by the safest and most conscientious in his own department. That the constitutional signs of moderately severe hæmorrhage do form a recognisable group of symptoms is tacitly admitted, but it is largely left to gynecological specialists to make any practical use of them. The danger of hæmorrhage in parturition makes the accoucheur constantly on the look-out, and gives him a facility in diagnosis which should be aimed at by all.

What, then, are the signs of a severe hæmorrhage? To a large extent they are the signs of shock. Thus we meet with cold, clammy extremities, a feeble rapid pulse, sighing respiration, an anxious expression, and general pallor; and it is therefore for us to determine by which of these signs we may distinguish the prostration of a severe hæmorrhage from that due to shock, particularly peritoneal shock, where many of the symptoms are due to a local, that is to say a cerebral anæmia. Clearly a paleness of the skin is a salient feature, and I would advocate that this paleness (best evidenced by the mucous membranes) is produced by the removal of a quantity of blood without otherwise interfering with the circulation, so that what colour remains is pink, which forms a considerable contrast to the colour of the face in the collapse of peritonitis or choleraic diarrhœa, or other serious diseases where the hue is variously described as earthy, leaden, or ashy—a result produced by emptiness of the cutaneous vessels, to which is added an abnormal venosity of the blood due to failure of the circulation, and a more definite falling in of the features.

Regarded from another point of view, the anæmia of a patient suffering from hæmorrhage is a loss of colour, which is great in proportion to the severity of the other symptoms. Similarly the

other sign of diagnostic importance is the rapidity of the pulse in proportion to the degree of collapse, a comparison which should as surely be made as the ratio of the pulse rate to the respiratory rate in diseases of the chest. Thus, omitting the moribund state, we may expect in a well-marked case of peritonitis, general or local, a pulse of 120; whereas in a ruptured tube (where there is of necessity some abdominal disturbance), with moderate hæmorrhage, the pulse rate would be about 120 also; and if the loss of blood were large, would reach 130, 140, or even more—a rapidity of far less seriousness in hæmorrhage than in many diseases. How these two signs may fail to attract attention has been already pointed out. How they may be misinterpreted depends on the fact that hæmorrhage is inevitably consequent upon some other morbid condition, which may be easily accredited with being the sole cause of the trouble. So in typhoid the recognition of hæmorrhage into the bowel is obscured by the fever; so in a run-over the hæmorrhage from a ruptured kidney may simulate an inevitably fatal abdominal injury; so in a tubal gestation the abdominal condition may suggest a hundred and one possibilities but the right one.

The last case is further complicated by the fact that the certain presence of internal hæmorrhage is in most cases the final, and in many cases the only visible clue to the nature of the disease. If it is not yet evident to you that mistakes, and fatal mistakes, must be made from failure to recognise these signs of internal hæmorrhage, I have only to refer you to the post-mortem records of this or any other general hospital where difficult cases are for the most part more subject to discussion, and therefore to accurate diagnosis, than they are in private practice. Let me illustrate this unsatisfactory state of things by an instance where the less usual converse mistake was made, namely, of suspecting a severe internal hæmorrhage where none existed. A woman, over thirty, had borne two children, and thought she was at the end of the fifth month of a third pregnancy. She felt perfectly well till a week before she consulted her doctor, when she began to have severe abdominal pain and vomiting, and for the last three days of the week her abdomen became rapidly more distended. When seen she was very ill and much collapsed; pulse 130, with incessant vomiting. There was no constipation. Pregnancy was rightly diagnosed, but the swelling was wrongly supposed to be an enormous effusion of blood. It is to be noticed that in this case the pulse ratio was readily explained by the vomiting, also that the anæmia was not extreme, and the patient's complexion ashy rather than blanched; so that from the constitutional signs alone a severe hæmorrhage was not in any degree probable. Of course the swelling, from its very size, could not have been a simple hæmorrhage. The patient proved to be suffering from acute hydramnios with twins.

To recapitulate the above points in the method of application, we see that the history is to be used to decide as to the necessity of an examination, and in the absence of any positive contra-indication of an extra-uterine pregnancy, to be thoroughly investigated from that point of view. To expect the history and symptoms to suggest a tubal pregnancy without subjecting them to analysis is but to court disaster. Begin by being suspicious, and continue so until the firm establishment of another diagnosis.

Unfortunately the pelvic examination can only be approached from the like suppositional standpoint, and unless it gives undoubted proof of the absence of pregnancy, or of the existence of an intra-uterine pregnancy, is likely to leave us still uncertain. A repeated pelvic examination is of greater service in detecting an increasing moveable swelling in one or other posterior quarter before rupture, or else a fixed swelling altering in size and character, as does an effusion of blood.

In order to make a positive diagnosis we must have in the first place a certain pregnancy, together with some signs of its being outside the uterus. Of these I would advocate three, the first and most reliable being the evidence of internal hæmorrhage; the second the passage of a membrane containing decidual cells; the third the enlargement of the empty uterus, as evidenced by the sound. Any one of these is sufficient evidence of the existence of pregnancy, also of its abnormal situation. Of the difficulties in recognising the hæmorrhage I have already spoken. The fallacies of the decidual cast are the possibilities of mistaking it for an early abortion or for a dysmenorrhœal membrane, but I do not think that in the presence of other signs of disease either of these is a very real difficulty. The fallacies introduced by the use of the sound are either not passing it the whole length of the enlarged uterus, or when it is passed further than normal in thinking the uterus has always been empty, whereas its enlargement may be due to a recent abortion or to the presence of an intra-uterine ovum. Here we may avoid placing undue reliance on the length of the uterine cavity if we only use the

sound where the condition of the patient demands a diagnosis, and then only after a consultation, which must remain an invariable rule, having regard to the possibility of disturbing a normal pregnancy. There are many cases where an anæsthetic enhances the value of an examination.

This review would hardly be complete without a discussion of the rational treatment of an extra-uterine pregnancy, but time forbids that I should do more than touch on what I believe to be the principles of such treatment. I have endeavoured to show that Nature possesses and in many cases exercises successfully her own remedies for this condition in the arrest of hæmorrhage and the death of the ovum. We have, therefore, to determine the cases in which operative interference is the proper course. Of these the earliest is without doubt one in which the probable diagnosis is made before rupture. Here the risk of laparotomy is reduced to its minimum, and frees the patient from the serious danger attendant on hæmorrhage into the peritoneum. The mortality in such cases should be very small, 5 per cent. as an outside limit; and in spite of a proportion of unnecessary explorations, the total mortality of the disease would be reduced to the above figure could abdominal section be resorted to in every case before rupture. The second in point of time is the moment of rupture, the time of greatest danger to the patient, when it is impossible to estimate the probable amount of the hæmorrhage. Many cases at this stage go downhill so rapidly that an operation becomes hourly more imperative, and at the same time more grave. A number of these patients, perhaps a majority, would be saved by immediate operation, and among those who would have recovered by Nature's self, few, if any, would be lost by operation. It is often pointed out that the additional amount of collapse at the time of rupture adds to the risk of an immediate laparotomy, a collapse which may be partially recovered from in a few hours; but I do not think that in these latter cases the collapse is so serious as it appears to be, while it is clear that if the patient is not going to rally after the primary shock her life will be sacrificed by any delay. Hence rapidity or feebleness of the pulse, even when extreme, becomes an indication for immediate operation, and not for delay.

When the patient is first seen a few hours after the shock, much depends on the skill and experience of the physician who is called upon to decide whether there is active hæmorrhage or not. If the patient be still losing blood, probably her best chance lies in immediate interference, whereas an unnecessary laparotomy exposes her to the very gravest danger. Not a few patients, despising the wisdom of the profession, have recovered from a desperate condition without operation, even when a considerable amount of blood has collected in the flanks of the abdomen. It is only natural for us to suppose that more patients have lost their lives by refusing to be operated upon. The former error is more likely to be forgotten by the physician, and the latter to have undue weight; while the laity treasure in their hearts the mistakes of the savant, leaving a pleasing epitaph alone to record the fate of the foolhardy. To advise an operation in this case is a great responsibility, but on the whole seems to be the safer course if, after duly debating the circumstances, the physician still remains in doubt.

When the patient is seen after recovering from the faint, or after the formation of a hæmatocele, is the third possibility, and here I would concur with those who adopt a waiting policy. Do not operate, but be prepared to operate. The indications for operation are continued hæmorrhage as evidenced by increase in size of the hæmatocele or by persisting pain, and later still the continuance of pregnancy. Of twelve consecutive cases seen after rupture one died without operation in a few hours, three after operation, two recovered after operation, and six recovered without operation. The number is too small to make a statistical table, but sufficiently large to support the waiting policy. The proportion of deaths in the operation cases naturally is much higher than if all cases had been submitted to the knife.

As to the details of the operation it is not for me to speak authoritatively, but I believe the results will improve in proportion as the surgeon errs on the side of doing too little, particularly in hesitating to irrigate and sponge the general peritoneal cavity, and in looking not to mechanical devices to remove the blood and protect the patient from septic inflammation, but to the still too much despised living cell. In the two complete operation cases of which I have notes there was found at the autopsy general plastic peritonitis, a condition which I believe is easily produced by mechanically irritating the peritoneum of these very anæmic subjects, and in them as fatal as the septic variety.

The Life and Works of Sir Charles Bell.

Being the Wix Prize Essay for 1898.

By W. E. LL. DAVIES.

(Continued from page 153.)

BELL recounts in one of his letters a discussion which he had with Lord Cockburn as to whether a man should confine himself to the acquisition of a fortune, or should endeavour to accomplish something for the benefit of science. Cockburn scoffed at the idea of sacrificing guineas to an abstraction. He tried to persuade Bell "that it was quite as respectable to fill your station well without making any exertions to improve science, to make discoveries, or fill the chasms of knowledge." Probably Cockburn knew that if Bell courted science and neglected fees he would lose a fortune, even if he gained fame. The history of this great discovery of his points to the truth of Cockburn's remark. It was present to his mind not much later than 1807. He evidently thought that everybody in the profession was as enthusiastic as himself. Had he been wise he would have waited till his views were fully matured, and then have blown such a blast on his own trumpet as would have resounded throughout Europe. What he did was very much the reverse of this. He printed in 1811 for private circulation his *Idea of a New Anatomy of the Brain*—for the observation of his friends. These friends do not seem to have made any observations at all. This seems to have disheartened him, for little more was heard of it till he proclaimed it to the Royal Society in 1821. He woke next morning and, like Byron, found himself famous, and his fame grew higher on the Continent even than in this country. When he visited Paris, Roux dismissed his class after Charles Bell had been introduced with the words "C'est assez, messieurs; vous avez vu Charles Bell." Cuvier, Tiedeman, and Scarpa regarded him with honour; and in the Continental schools he was classed as everybody now classes him, as not inferior to Harvey. But others, envious of him no doubt, tried to rob him of his rightful honour. Majendie claimed to have first shown this experimentally in 1821; but he is refuted by the printed record of Bell's experiment in 1811, as is admitted by Béclard in his most recent account of the controversy (*Journal de Physiologie*, Paris, 1884, p. 405). Apart from this, Majendie was acquainted with all Bell's previous publications; he also witnessed at his own request some of John Shaw's experiments in Paris on the fifth and seventh nerves, and received from the latter a full explanation of the opinion entertained by Bell and himself. He also received plates illustrating these opinions, and showing the differences between the two great classes of nerves.

The controversy on the subject of prior discovery lasted a long time, but time and universal opinion have now settled it, and Charles Bell's claim is acknowledged by all.

Shortly after the publication of his great work in 1830, he was again thrown into the society of Brougham, with whom in later years he had not had much in common. This association led him to publish his volume on *Animal Mechanics* for the Library of Useful Knowledge, one of the ablest popular treatises which was ever composed on a scientific subject. He had delivered the substance of the book in his lectures as Professor of Anatomy to the College of Surgeons, but the work in itself was a wonderful triumph of clear exposition on a subject which none but a master could have handled, and which even a master might have failed to render intelligible and attractive to the ordinary reader. In 1831 he was selected to write one of the 'Bridgewater Treatises,' and thus produced his work on 'The Hand,' for which he received a thousand guineas. The latter treatise, and his illustrations of *Paley's Natural Theology*, written in conjunction with Lord Brougham, were offshoots of the train of the idea contained in the treatise on *Animal Mechanics*. Bell simply wrote the notes and appendix of *Paley's Natural Theology*. They relate chiefly to anatomy and physiology. They are composed in the most simple language, so that any reader could become thoroughly conversant with the subject. The book treats of the evidence of design in nature. Bell, illustrating this, gives an account of the antlers of the deer, why they fall off in that part of the year when not required for protection. He also refers to the discovery made by Purkinje and Valentine respecting "ciliary motion." Bell seems to have had many misgivings about undertaking the "Paley." In March, 1835, he writes, "Having written the *Animal Mechanics* and the *Bridgewater*, I feel I have done enough on that subject for the present; if I could gain a little leisure, or were I so ill as to be

excused from business, I know no occupation that would be more delightful, but with the pressure of business and anxieties of another kind I fear I can do no justice to such a subject. A man should feel deeply and be pleased with everything around him before he can possess himself of that tone of mind necessary to such an undertaking. If there be any 'best bits' in the essay on the hand they were written after a day of complete retirement and relaxation at Panshanger and Chenies. I have tasked myself pleasantly, while throwing a line, how I should express my thoughts on returning to the inn. It is then that one has the justest and fairest views of nature."

It was on reasons so grounded that Bell defended his passion for fishing, into the practice of which gentle craft he was seduced by his early friend, John Richardson of Pludyer Street. At first he was a most awkward handler of the rod, but by diligent practice in his "drawing-room" of an evening he acquired those incommunicable delicacies in the motion of the wrist by which the fly is so floated as to become an irresistible temptation to the fish. His carriage, when he made a tour with his wife, was carefully packed with all the appliances of his sport, a few chosen volumes, and the unfailing sketch-book. In the heat of the sun a neighbouring tree gave him shade to sketch the surrounding scenery, until a passing cloud enabled him once more to ply the rod with some success. This sport, so conducted, he called his "country house," and looked on it as the cause of his health, as it surely was of no little of his happiness. Bell was induced about this time (1835) to accept the chair of Physiology in the London University, with, as he states, a *carte blanche* as to the teaching of Anatomy. But a host of lecturers under various denominations were appointed by the Council, composed of gentlemen little conversant with the wants of medical instruction, and the result was, in the words of Bell, "That five gentlemen were engaged in teaching human anatomy; and that three certainly were lecturing in the same class-room, on the same subjects, and with the same preparations put on the table three successive times in the same day."

As a natural consequence to Bell's exalted notions of a teacher, within a few days after the first opening of the University he tendered his resignation, and a short time afterwards, from a variety of petty circumstances, he withdrew altogether. He was now without any means of support but his practice, and that he disliked; all his objects of ambition, his plans for ameliorating his profession, were at an end.

In 1831 he received on the accession of William IV, together with Leslie, Herschell, and Ivory, the Guelphic Order of knighthood, an honour not too great even for those merits which were then undisputed, and very inadequate for his real services to science and the world. Charles Bell was, however, as much gratified by his association with Herschell and the others as by the distinction itself, as he says in his diary, "The batch makes it respectable." Strangers from all parts of the world consulted him, and offered him large fees for a few visits; and had he chosen to remain in London, and mastered his ruling passion for scientific research, he most certainly might have thrown aside his wants and his anxieties; but that passion was his life, and only with life did it perish.

In November, 1835, Bell was offered and accepted the chair of Surgery at the University of Edinburgh. It is not surprising that Bell should have been induced to accept it. Though he had realised most of his early ambitions and dreams, yet he was a poor man, and it can hardly be wondered at that nothing in London could compensate for visions of academic leisure and honours, joined to the society of Jeffrey, Cockburn, Cranstoun, William Clerk, and Adam Ferguson, and the daily solace of the one brother left.

Before quitting London the highest names of his profession tendered a mark of their respect and regard by the presentation of a piece of plate—a gift which, proceeding from such men, was most grateful to him; and at the annual dinner of the College of Surgeons, when Sir Astley Cooper presided, he may be said to have taken leave of his associates amidst overwhelming signs of their respectful affection and regret.

His return to Edinburgh in 1836, after an absence of thirty-two years, awakened many emotions, and he writes, "Every remarkable object, every street and corner, brought to my recollection some circumstances important to life, and I seemed to walk in a city of tombs." His old friends received Charles Bell with open arms and profuse hospitality. He was kindly welcomed at the University, and began his new duties with energy. His opening lecture was attended by a large and brilliant extra-academical audience; and, as usual, he soon exhibited his power of exciting and fixing his class. But thirty-two years had changed Edinburgh more than appeared at first sight. Ere long he began to find the experiment was a failure; within three

years of his arrival various circumstances had straitened his means; neither his class nor his practice yielded an income such as might be expected from his talents. By-and-by it was evident that the subject of medical reform and the vague notions connected with it had affected still more the University of Edinburgh. The measure about to be brought into Parliament and the rumours afloat caused Bell great uneasiness. In one of his letters to Dr. Ferguson he writes:

"I require your sympathy, and perhaps your assistance, at all events your advice. You know my motive in coming to Scotland. Old Windmill Street, for which I had paid my last penny, and which I had brought up to some consideration by twenty years' incessant labour, was destroyed by the establishment of the London University! The treatment of the governors or subscribers, which disgusted me, I need not recall. My hospital, which at the time you knew me enabled me to divide with my colleagues £1200, was lost by the withdrawing of the pupils to a new pretence of an hospital. From these circumstances you cannot be surprised that I accepted the invitation to come here. But now observe what a succession of petty annoyances. I had during my whole life desired a college life. I thought I had here obtained a situation where I could constantly pursue science, and meditated a splendid work on the nervous system. I soon found that I was deceived. The magistrates are our patrons—men a hundred degrees less calculated to have to do with science or literature than the subscribers to the new Universities. Much as these worthies have done to injure the University of Edinburgh, the *coup de pied* comes from your friends. This intended bill of Sir James Graham is total destruction to the University as a school of medicine. As I understand, degrees in London are to be given by a deputation from the College of Physicians and College of Surgeons, and the same measure is to extend to Edinburgh. Now heaven and earth! the College of Physicians here is nobody; and the College of Surgeons are family apothecaries. If to such men you entrust the duty of granting degrees, where then are the Universities? Their honour, credit, station, and emoluments are gone. My dear friend, what would you advise me to do? There are here six lecturers in surgery, all now to be put on a par; the distinction of professor is sunk, and a triumph of a pack of the most illiberal dogs that ever disgraced a profession complete. The more I do, the more I exert myself, the stronger the desire here to mortify me, and this is their grand occasion. As long as something like respect was attached to my labours I was content with less of income. I put down my carriage with as little feeling as I throw off my shoes. I could further reduce my expenses, but not consistently with a public situation."

While these anxieties were still hovering over him, he planned and executed a journey to Rome for the purpose of finishing the third edition of his *Anatomy of Expression*, and also for the benefit of his failing health. Since his return to Edinburgh he had published in 1838 *Institutes of Surgery*, and in 1841 some *Practical Essays*. "These, like all his works, are worth reading as the productions of close observation and considerable experience; but they are not of the same consequence as his physiological writings. The time he spent in the wards and at the bedside of patients was not lost to science, for observations there made helped him on his great discoveries, but as an operating and consulting surgeon he does not stand higher than his contemporaries."

His journey through France and Italy was marked by attentions which few have received. At Lyons, Marseilles, Genoa, and Bologna the chief physicians waited on him, and made arrangements for receiving him at the hospitals, where the pupils were assembled to see him. At Rome the Italian doctors and artists, English and native, devoted themselves to show him attention.

But the energies of his active mind, the ambitions and cares of life, were soon now to be brought to a close. A little more than a year later he was, as he says in a letter, "chained in activity" by terrible attacks of angina pectoris, and in one of these he died on the morning of 28th April, 1842. He was staying at Hallow Park, near Worcester, and was buried in the churchyard of the parish. In Hallow Church there is a tablet to his memory, with an English inscription by Lord Jeffrey.

Thus lived and died Charles Bell, a man who largely influenced the progress of medical science, and those who are capable of being modelled by a great example. He began his career without friends or fortune, and quitted it without a debt. Among his own family few were more beloved. "Whatever might have been his fastidiousness as to practice among the rich, he never neglected the poor." It is impossible to read his letters without perceiving the lofty notions he entertained of his talents and destinies. If ever there was a being possessed with a principle of action which compelled him to advance

in an appointed path, that individual was Bell. He nurtured in his mind an ideal of what a man of science in the walk of medicine should be, and to that model he would fain have made all others bend, as he had himself done. He would accept no honours save those flowing from previous acknowledgment of his deserts, and did not hesitate to decline being associated in public capacities with men whose ambition he could not regard with respect. He was simple, outspoken, unworldly, and it followed that many worldly spirits never comprehended or perhaps liked him; but it equally followed that he was regarded with affectionate reverence by all capable of sympathising with a pure and noble mind. His industry was incessant, and few in any profession have proved it by a greater number of important publications. "The style of his scientific papers is sometimes involved, nor are happy turns of expression frequent in his popular works. His letters are his best compositions."

Bell began life with the highest aspirations, but long before its close he had been chastened into its real worth, and man and nature had each in their several ways taught him that lesson of humility which his own words must convey: "Whoever has sat on a sunny stone in the midst of a stream and played with the osier twigs and running waters must, if he have a soul, remember that day should he live a hundred years; and to return to such a spot after twenty years of a struggling life in the great world of man's invention—to come back thus to Nature in her simple guise, again to look up the same dark hill, again to the same trees, still in their youth and freshness, the same clear running waters, if he can do this, and think himself better than a cork floating on the stream, he has more conceit than I."

It was a saying of Sir Astley Cooper's that nobody should devote himself to science unless he had a fortune ready made. The effects of acting on that maxim and of disregarding it can be seen in his case and in Bell's. Sir Charles Bell ended as poor as he began, but as spotless, leaving a widow only the memory of his gentle virtues and the immortality of his name.

Twin Labour; Birth of Common Placenta twenty minutes before Birth of Second Child; Survival of both Children.

Reported by T. W. BROWN at Dr. CHAMPNEYS' request.



ALLIED to J. S.—, primipara æt. 23, 1.25 p.m., June 11th. On arrival found patient with fairly regular labour pains. On abdominal examination R. O. A. position diagnosed, limbs felt on left side. Fœtal heart heard on right side below umbilicus, rate 150. *Per vaginam*, os size of five-shilling piece, good secretion, vertex presenting. Gave enema and left patient.

At 8 p.m. found membranes had ruptured and secondary uterine inertia beginning, so gave some beef tea and Tinct. Opii mxx ; told patient to try and go to sleep.

Looked in again 11 p.m.; patient had dozed slightly, after which pains became more frequent. *Per vaginam* found vertex presenting at vulva, and there it became arrested, as pains were slight. The vulva and perineum were very rigid; applied hot flannels, waited 1½ hours when pains came on, and by means of stretching vulva and perineum with fingers the child was born 12.15 a.m., June 12th; after five minutes the cord was tied. On further examination the uterus was found to be well above the umbilicus, and to contain a second child, which mother could feel moving. As soon as the cord was tied, a pain expelled the placenta. Between the birth of the first child and the placenta there was some bleeding, which stopped as soon as the placenta was out. Then noticed the placenta was very large, and on examining it found two cords coming from it. On making an examination to ascertain the presentation of the second child could feel the head, but no membranes, and as the waters had evidently all come away, waited for the pains, which came on and expelled the second child at 12.40, twenty minutes after the placenta. The second child was in a condition of white asphyxia, and showed no signs of breathing; artificial respiration was performed, which brought the child round. There was no bleeding after the birth of the second child.

The mother was much exhausted, very faint, and complained of headache; a pint of hot beef tea was given, and her head kept low. 3j Ext. Ergotæ Liq. was also given, and a hot vaginal iodine douche,

all clots having been previously removed. Patient was not moved for one hour; a binder was then put on, and she was put to bed. The babies (girls) weighed 5 lbs. each; their eyes washed with Argent. Nit. Sol., grs. v ad 3j. The placenta was intact, and weighed 24 lbs., cords 18 inches long; it contained one chorion and two amniotic cavities, which probably communicated, as all the liquor amnii was discharged with the first child. At 2 a.m., uterus being firmly contracted, the patient was left.

The mother made an uneventful recovery, and when visits were discontinued both the children were quite well.

Remarks.—It is, of course, well known that the fœtus or newly born child can stand deprivation of air for a much more considerable time than older children. A case is recorded (*Lancet*, July 30th, p. 274) in which a newly born child was resuscitated after having been buried in an ash-pit for nine hours.

In this case it is clear that if the second child obtained any oxygen at all, it was through the medium of the exposed placenta; for the cord of the first child was tied, so that no anastomotic circulation was possible. The fact that it was born in a state of white asphyxia shows that the circulation must have come to a standstill. Dr. Champneys regards the case as one of suspended animation.

Notes.

GREAT sympathy will be felt by all Bart.'s men with Mr. Henry Power and Mr. D'Arcy Power in the bereavement which has recently befallen them. On Saturday, July 30th, Mr. Power was on the East Pier at Whitby with his daughter, Miss Lucy Power, and his grand-daughter, Miss Isabel Cooper. An unusually large wave broke over the pier and swept the two ladies into the sea, where they were drowned. Mr. Power nearly lost his life in a gallant attempt to save them; we are glad to add that although much bruised he is progressing rapidly towards recovery.

SURGEON-LIEUTENANT HUGO has been recommended for the Distinguished Service Order. We have already referred to his act of heroism, but cannot refrain from quoting the account given by Sir Walter Foster as recorded in the *British Medical Journal* for July 16th. "Lieutenant Ford, of the Malakand Field Force, was dangerously wounded in the shoulder, and was bleeding to death from the bullet having cut the main artery, when Surgeon-Lieutenant Hugo came to his aid. The fire was too hot to permit lights to be used to examine the wound, and there was no cover; nevertheless the surgeon struck a match, and examined the wound. The match went out amid a splutter of bullets which kicked up the dust all round, but by its uncertain light he saw the nature of the injury, and seized the bleeding artery, and as no ligature was available, he remained for three hours under fire holding the vessel between his finger and thumb. When, at length, it seemed that the enemy had broken into camp, he picked up the officer, who was unconscious from loss of blood, and bore him into a place of safety without relaxing his hold of the artery."

THE following additional appointments of Medical Referees have been made under the Workmen's Compensation Act, 1897:—Charles Stuart Pethick, M.R.C.S., L.R.C.P.,

Woolton, Liverpool; Frank Montague Pope, M.R.C.P., Leicester; Harry Gilbert Barling, F.R.C.S., Birmingham; John Lionel Stretton, M.R.C.S., Kidderminster; Walter Gifford Nash, F.R.C.S., Bedford; Edward Colby Sharpin, L.R.C.P.; Thomas George Styan, M.D., Ramsgate.

ON the result of the combined examinations held at London and at Netley for "Surgeons on probation of the Indian Medical Service," the Montefiore Medal and Prize of 20 guineas for Surgery has been awarded to H. B. Meakin.

THE Home Secretary has appointed Mr. Thomas Morrison Legge, M.D., to the new post of Medical Inspector of Factories and Workshops.

THE honorary degree of LL.D. has been conferred upon Dr. Lauder Brunton by the University of Edinburgh.

THE *Middlesex Hospital Journal* has issued an excellent special number devoted to the History of the Hospital and School. It is adorned with many illustrations and two plans of the new school buildings now in course of erection.

THE prophecies made at the Amalgamated Clubs' dinner have proved correct. The Cricket Cup has come to Bart.'s, the final tie against University resulting in a win for us. We regret not being able to give fuller particulars, but the Cricket Club has apparently become very modest after this achievement, and has forborne to send any account to us of its victory.

WE are glad to be able to announce that the inaugural address of the next Session of the Abernethian Society will be delivered on Thursday, October 6th, at 8 p.m., by Sir Thomas Smith, Bart, F.R.C.S. Sir Thomas has chosen for his subject reminiscences of his forty-eight years' association with the Hospital, and our readers will agree with us that an interesting evening may be expected.

WE have been hearing lately of the pre-eminent position held by English schools of medicine early this century. Be that as it may, in those days students worked under disadvantages such as we have no conception of now. When Mr. Skey was a student he took the chair at a meeting of the pupils of the Hospital where the following significant resolutions addressed to the surgeons were unanimously adopted.

"1st, that for the benefit of the students and the economy of your time the name, age, disease, and treatment of each patient be posted on some conspicuous part of the bed.

"2ndly, that all accidents admitted be registered every day in a book kept for the purpose in each accident ward.

"3rdly, that a notice of all operations to be performed shall be posted on a board in the Anatomical Theatre."

The fact that such requisitions were necessary is evidence in itself of the state of clinical teaching. But a fourth resolution was also hotly discussed. Not only were the post-mortem examinations carried out without any regular notice being given, but a tax of sixpence was imposed on each student for entering the post-mortem room! After much discussion the resolution was drafted as follows:

"4thly, that you will please to cause due notice of every post-mortem examination to be given, and will also assist in correcting the present abuses of the deadhouse."

* * *

A medical paper of the day in commenting on these resolutions spitefully says, "We suspect some of the surgeons will be often at a loss to give the disease of all their patients a name. It is fortunate for the physicians of the hospital that the resolutions were not extended to them"! Further, the rules with reference to apprentices were animadverted on. "According to one rule of this hospital, a surgeon, whatever his abilities may be, is ineligible for the office of surgeon who has not served his apprenticeship to one of the surgeons of the institution; and for this advantage the most extravagant premiums have been and still are given. We have heard of a merchant giving one thousand pounds to the late Sir Charles Blincke with his son as an outdoor apprentice." Truly *tempora mutantur*, for which we may be thankful.

Amalgamated Clubs.

CRICKET CLUB.

WE have received no news of the Cricket Club this month.

SWIMMING CLUB.

INTER-HOSPITAL SWIMMING SHIELD.—SEMI-FINAL ROUND.

St. Bart's v. Guy's.—This was fixed for July 19th, and we had a fair team entered, but unfortunately two of them failed to put in an appearance at the baths, so after waiting for forty-five minutes we had to scratch the fixture. It is a great pity that such a thing should have occurred, as it gives the Hospital an extremely bad name amongst other hospitals, and as a large number of Guy's men turned up at the baths to see the racing, it must have been particularly annoying to them. We offer apologies for their absence, but it must be hard for Guy's to understand the indifference shown by two men who had been chosen to represent a hospital in a Cup Tie.

TWO LENGTHS TRUDGING HANDICAP.

Swum off at our headquarters, Northampton Institute, Clerkenwell. Eight men entered. Result:

E. M. Niall... .. 1 | A. H. Bloxsome ... 2

INTER-HOSPITAL WATER-POLO CUP.

The final of this competition took place on Tuesday afternoon, July 26th, at St. Saviour's Baths, Southwark. The result lay between St. Bart's and Guy's (holders). Both hospitals were well represented both in the water and the gallery. St. Bart's started by defending the "deep" goal first, and at once an extremely hard game commenced, which continued so right up to the finish; indeed, there seemed no choice at all between the sides. C. B. Sells (Guy's), unable to procure the services of a neutral judge, ably took the unenviable post of umpire. In the first three minutes Niall scored a good goal for St. Bart's. Play having begun again, there were some

severe struggles, from which Grose (Guy's) extricated the ball and made an energetic attempt to score, which was, however, well stopped by Thomas, who the next minute had to save again. Once more Niall took the ball to Guy's end, but failed to score, so that at half-time the score was—St. Bart's, 1; Guy's, 0.

After the change Guy's pulled together excellently, and their passing was admirable; indeed, this half they pressed us very hard. Winder (St. Bart's) got in a pretty shot, which failed to take effect; while for Guy's, Payne, Grose, and Ash kept our men busy, and it took Thomas all his time to defend our goal. From a foul against Guy's Niall passed to Amsler, who with a neat and steady shot notched another goal. Once more Guy's made a well-combined attack, and Edwards was enabled to baffle our goal-keeper's defence. A few seconds only remained, and at the call of time the result stood—St. Bart's, 2; Guy's, 1.

Three cheers for Guy's for the winners terminated a very good-natured meeting.

This is the third year St. Bart's has held the cup. Since its institution Guy's has had it three times and St. Thomas's once. Every man in the match played his hardest, and all were equally to be praised, but St. Bart's has been lucky this season in its secretary, E. M. Niall, to whose energetic labours much of its success must be attributed.

Sides:—*St. Bart's*: H. E. Thomas (goal); L. B. Scott, M. G. Winder (backs); A. H. Bloxsome (half-back); A. M. Amsler, E. M. Niall, F. E. Tayler (forwards).

Guy's: J. H. Wilks (goal); P. G. Greenfield, H. Carlow (backs); J. L. Payne (half-back); J. R. Ash, A. Edwards, H. Grose (forwards).

SHOOTING.

ST. BART'S v. ST. MARY'S HOSPITAL.

June 8th.

ST. BART'S.

	200 yds.	500 yds.	600 yds.	Totals.
T. H. Gandy	28	29	33	90
A. C. Brown	31	34	24	89
R. J. Morris	29	28	30	87
C. R. V. Brown	23	26	30	79
O. E. Lord	28	27	16	71
F. E. Tayler	26	18	26	70

Total..... 486

ST. MARY'S HOSPITAL.

De Morgan.....	26	31	32	89
J. H. Pooley	26	32	31	89
H. C. Jones	28	28	26	82
H. C. Tayler	27	25	18	70
G. N. Smith	28	22	17	67
N. B. Cunningham	23	14	8	45

Total..... 442

Result:—Won by 44 points.

ST. BART'S v. ST. THOMAS'S.

ST. BART'S.

	200 yds.	500 yds.	600 yds.	Totals.
A. C. Brown	28	26	28	82
R. J. Morris	30	29	22	81
C. R. Brown	25	28	25	78
T. H. Gandy	26	26	16	68
O. E. Lord	14	25	24	63
C. S. Frost	30	22	4	56

Total..... 428

ST. THOMAS'S.

C. De Z. Marshall.....	34	33	22	89
H. Upcott	29	32	22	83
H. Unsworth	30	25	22	77
H. E. Weekes	28	28	19	75
H. B. Newham	18	22	20	60
F. D. Vaughan	25	19	14	58

Total..... 442

Result:—Lost by 14 points.

ST. BART'S v. WHITGIFT GRAMMAR SCHOOL.

July 2nd.—St. Bart's won by 38 points.

ST. BART'S v. GUY'S HOSPITAL.

July 6th.—15 shots at 500 yards.

ST. BART'S.		GUY'S.	
W. R. Read	65	R. J. Morris.....	56
A. C. Brown	66	C. S. Frost.....	56
O. E. Lord.....	62		
T. H. Gandy.....	57		
		Total	362

GUY'S.		ST. BART'S.	
Travers	66	Hodgson	48
Pearson	60		
S. Turner	57		
		Total	231

Result:—Won by 131 points.

ST. BART'S PRIZE MEETING.

Held at Staines, June 30th.

Competition I.

THE WARING CHALLENGE CUP AND PRIZE (presented by Messrs. Arnold).

Aggregate of score in Competition II, and for the Hospital at Bisley.

Compt II. Bisley.		Totals.	
Won by R. J. Morris ..	65	68	133
Next best score, C. R. Brown ..	65	63	128

Competition II.

15 shots at 500 yards.

1st.	R. J. Morris	65
	Prize presented by Messrs. Pentland.	
	C. R. Brown	65
	Prize presented by Messrs. Burroughs, Wellcome and Co.	
	Next best score, T. H. Gandy	60

Competition III.

7 shots at 600 yards.

1st.	O. E. Lord	33
	Prize presented by Messrs. Down Bros.	
2nd.	W. R. Read	32
	Prize value 15s.	
	Next best score, T. H. Gandy.....	32

Competition IV.

Aggregate of II and III.

1st.	T. H. Gandy	92
	Prize presented by Messrs. Burroughs, Wellcome and Co.	
2nd.	A. C. Brown and D. Finnagan	69
	Prize presented by Allen and Hanburys.	
	A. C. Brown ultimately won the second prize.	

UNITED HOSPITALS' COMPETITION.

July 14th. 15 shots at 500 yards.

Guy's (winners of Cup).

Private Glover (7th Middlesex)	68
Private Pearson (20th Middlesex)	67
Private Travers (14th Middlesex)	67
Lance-Corporal Hodgson (20th Middlesex) ..	66
Private Stanley-Turner (7th Middlesex)	61
Private Moss (20th Middlesex)	60

Total

ST. THOMAS'S.

Private N. Carpmael (2nd East Surrey)	69
Private Marshall (20th Middlesex)	62
Private Weekes (20th Middlesex)	62
Private Unsworth (20th Middlesex)	61
Private Upcott (20th Middlesex)	57
Corporal Beale (20th Middlesex)	56

Total

ST. BART'S.

Captain Morris (1st V.B. Royal Lanes)	68
Private A. C. Brown (V.M.S.C.)	65
Private C. R. Brown (V.M.S.C.)	63
Private Read (H.A.C.)	58
Private Gandy (20th Middlesex)	53
Private Frost (20th Middlesex)	51

Total

ST. MARY'S.

Private Jones (V.M.S.C.)	57
Private Pooley (V.M.S.C.)	55
Private Tayler (V.M.S.C.)	52
Corporal De Morgan (V.M.S.C.)	50
Lance-Corporal Trumper (V.M.S.C.)	49
Lieutenant Cunningham (London Irish)	49

Total

Private N. Carpmael, St. Thomas's, wins the prize given by the U.H.R.A. for the highest individual score, 69 points.
This is the first year the Cup has been won outside St. Thomas's.

PRIZE MEETING.

July 25th, 1898.

Competition I.

Open to all members of hospitals belonging to the U.H.R.A.

7 shots at 200, 500, and 600 yards.

1st.	N. Carpmael	99
2nd.	C. de Z. Marshall	90
3rd.	— Pooley	85

These prizes were presented by Messrs. Burroughs, Wellcome and Co.

Competition II.—Handicap.

	Points.	H'cap.	Total.
1st. De Morgan.....	88 ...	7 ...	95
Prize value	30s.		
2nd. Travers	87 ...	8 ...	95
Prize presented by Messrs. Down Bros.			
3rd. Jones	82 ...	13 ...	95
Prize presented by Messrs. Allen and Hanburys.			
4th. Vaughan.....	83 ...	10 ...	93
Prize value	7s. 6d.		

Next best scores:

Beale	81	10	91
Cotting	79	12	91
Holford	84	6	90
Brown	84	5	89
Upcott.....	82	6	88
Read	81	4	85
Spurgeon	62	17	79
Trumper	58	19	77

Distribution of Prizes.



HE certificates, medals, books, and other prizes gained in the Scholarship and Prize Examinations during the year 1897-8 were distributed by Mr. Henry Power, Consulting Ophthalmic Surgeon to the Hospital, on Thursday, July 14th, at 3 p.m., in the Great Hall of the Hospital. In the unavoidable absence of the Treasurer, Mr. Alfred Coleman, Senior Almoner, took the chair, and read a letter from Sir Trevor Lawrence, in which he expressed his very great regret at his unavoidable absence, and his hearty good wishes for the continued prosperity of the School.

A letter from Mr. Willett, expressing his regret at not being able to be present, was read, and the surgeons present were obliged to leave early on account of a meeting of the Council of the Royal College of Surgeons.

The Warden then read the following report:

"The report which it is my duty to present is in every way most satisfactory. The number of students who entered the School for the year 1897-8 was 188, as compared with 165 in the preceding year. Of the 188, 97 entered to the full curriculum, as compared with 84 in the previous year; 69 entered for special courses of instruction, and 22 for the Preliminary Scientific Class. St. Bartholomew's again takes the lead amongst metropolitan medical schools in the number of entries. The total number of students in attendance for the year has been 552.

During the past year the most important change in the Hospital Staff has been the retirement of Sir Thomas Smith from the position of Surgeon. He was a member of the Staff for thirty-four years, serving nine years as Assistant Surgeon and twenty-five years as Surgeon. His retirement was much regretted by both his colleagues

and the students, by all of whom he is regarded with the highest esteem and respect. He has been elected Consulting Surgeon to the Hospital. The vacancy caused by Sir Thomas Smith's retirement has been filled by the election of Mr. Walsham, who for his long service as Assistant Surgeon and as Lecturer on Anatomy has fully earned his promotion. The vacancy among the Assistant Surgeons has been filled by the election of Mr. D'Arcy Power. Mr. Walsham has been succeeded in the orthopaedic department by Mr. Bruce Clarke. Another change in the Hospital Staff has been the retirement of Mr. James Berry from the position of Surgical Registrar, which office he has filled for nearly seven years with conspicuous success and ability. Mr. Berry has been succeeded by Mr. H. J. Waring.

In the *Medical School* there have been several changes. Mr. Waring has resigned the Senior Demonstratorship of Anatomy, and has been succeeded by Mr. R. C. Bailey; whilst Mr. Percy Furnivall has been elected to a full Demonstratorship of Anatomy. Mr. Phillips has been elected to an Assistant Demonstratorship of Anatomy, and Dr. Christopherson has succeeded Mr. Sloane, whose term of office has expired. Mr. Pigg, having been appointed Demonstrator of Pathology in the University of Cambridge, has been succeeded by Dr. Morley Fletcher as Assistant Curator of the Museum. Dr. C. H. Roberts, whose term of office as Demonstrator of Midwifery has expired, has been replaced by Dr. J. Morrison, and Mr. T. J. Horder has been appointed to succeed Dr. Morrison as Assistant Demonstrator of Physiology.

Dr. Drysdale has followed Dr. Morley Fletcher as Assistant Demonstrator of Practical Medicine, and Dr. Horton-Smith has been appointed Assistant Demonstrator of Practical Pharmacy. Mr. C. J. Thomas and Mr. R. C. Elmslie have been appointed Assistant Demonstrators of Biology, and Mr. W. C. Reynolds has been elected Assistant Demonstrator of Chemistry in place of Mr. R. C. T. Evans.

During the year also Dr. Shore has resigned the office of Warden of the College and Secretary to the Medical School, and will be succeeded at the end of the summer session by Dr. J. Calvert.

By his retirement from the Wardenship, which he has held for seven years, Dr. Shore does not sever his connection with the School, for he continues to hold the Lectureship on Biology and Comparative Anatomy.

On the death of Professor Roy, our former Lecturer on Pathology, Dr. Kanthack was early in the year appointed Professor of Pathology in the University of Cambridge.

The work of the pathological department continues to increase, and the medical officers and lecturers earnestly trust that the Governors will be able shortly to provide the increased laboratory accommodation which this department so urgently needs.

Dr. Walter Emery, who has held the Treasurer's Research Studentship in Pathology for the past year, has done some excellent work, the results of which he hopes shortly to publish. It is a subject for congratulation that the Studentship given annually by Sir Trevor Lawrence has in the past four years yielded such excellent results, and has indirectly stimulated a desire to engage in pathological research on the part of the senior students in the School.

Amongst the distinctions which have been won by St. Bartholomew's men during the past year is the *Jacksonian Prize* of the Royal College of Surgeons, which has been awarded to Mr. Percy Furnivall for his essay on "New Growths of the Stomach and Intestines." This is the *fourth* successive year in which the Jacksonian Prize—one of the highest British honours in surgery—has been gained by a St. Bartholomew's man, and Mr. Furnivall is to be congratulated on maintaining the good reputation won by Mr. Waring, by Professor Kanthack, and by Mr. Bailey in the three preceding years.

In examinations the students have well maintained the high reputation of the Hospital. At the Royal College of Surgeons fifteen have passed the final examination for the Fellowship of the College, and at the last examination in May nearly one half of the total pass list consisted of St. Bartholomew's men.

At the examinations of the Conjoint Board seventy-eight have passed all parts of the Final Examination, and received their diplomas of L.R.C.P. and M.R.C.S., whilst corresponding numbers have passed the various earlier and intermediate examinations.

At the University of London five have taken the degree of Doctor of Medicine, one, Dr. Emery, obtaining the marks qualifying for the Gold Medal. Four have taken the degree of Bachelor of Surgery; one, Mr. E. J. Toye, securing a First Class Honours in Surgery. Fourteen have taken the degree of Bachelor of Medicine; one, Mr. E. J. Toye, having been awarded a First Class Honours with the Scholarship and Gold Medal in Obstetric Medicine. It is specially noteworthy that the Scholarship and Gold Medal in this subject has

been carried off by St. Bartholomew's men for the past four years in succession, viz. by Mr. W. E. Lee, Mr. S. Gillies, Mr. W. Emery, and Mr. E. J. Toye. Twenty-seven have passed the Intermediate Examination in Medicine, and twenty have passed the Preliminary Scientific Examination. Amongst those who have passed the Preliminary Scientific, Mr. E. C. Williams secured honours in Chemistry.

In the University of Cambridge seven have taken the degree of Doctor of Medicine, eight have passed the first part, and fifteen the second part of the Final Examination for the degree of Bachelor of Medicine, whilst seven have taken the Diploma in Public Health.

In securing public appointments, and in gaining commissions in the Indian, Army, and Naval Medical Services, old St. Bartholomew's men have fully maintained the reputation of the Hospital.

During the year the University of London Commission Bill has been re-introduced into Parliament, and has proceeded a stage further than its predecessor of last year, having now passed its second reading in the House of Commons. We sincerely hope that the Government will succeed in passing it into law during the remainder of the session, and that by its means a University degree in London may be made more accessible to our students, and our School become a part of a great Metropolitan University.

In inter-hospital sports our students have held their own in competition with other Medical Schools, and our cricket and football teams are in every way creditable. The cricket pitch at Winchmore Hill has been found to require relaying, and has been relaid at a cost of £85.

In conclusion, I desire to thank the Treasurer and Governors of the Hospital, in the name of the Medical Officers and Lecturers, for the keen interest they continue to take in the welfare of the Medical School."

Mr. Power then distributed the prizes to the successful students, who were presented to him in order, beginning with the Jeaffreson Exhibitioner and ending with the Lawrence Scholar and Gold Medallist as follows:

Jeaffreson Exhibition	L. R. Tosswill.	
Preliminary Science Exhibition ...	E. G. Pringle.	
Junior Entrance Scholarship in Science	{ H. R. Kidner. E. C. Williams. }	}Æq.
Senior Entrance Scholarship in Chemistry and Physics ...	C. E. West, B.A.	
Senior Entrance Scholarship in Biology and Physiology...	W. M. Fletcher, B.A.	
Shuter Scholar	F. C. Shruballs, B.A.	
Junior Scholars — Chemistry {	1. R. C. Elmslie.	}
and Physics	2. F. N. White.	
Junior Scholars—Anatomy and Biology	{ 1. E. C. Williams. 2. E. B. Smith. }	}
Treasurer's Prize—		
1. T. C. Neville.	5. N. E. Waterfield.	
2. E. B. Smith.	6. E. C. Williams.	
3. T. P. Baldwin.	7. T. R. Coudrey.	
4. J. Corbin.	8. A. S. Petrie.	
Senior Scholarship	R. C. Elmslie.	
Foster Prize—		
1. { R. C. Elmslie }Æq.	6. W. R. Read.	}
{ H. Love. }	7. E. W. Ladell.	
3. F. N. White.	8. E. L. Martin.	
4. R. T. Worthington.	9. H. J. Slade.	
5. A. E. Thomas.		
Harvey Prize—		
1. S. G. Mostyn.	3. F. Gröne.	
2. R. C. Elmslie.	4. E. W. Ladell.	
Wix Prize	W. E. L. Davies.	
Hichens Prize	F. Gröne.	
Kirkes Scholarship and Gold Medal	R. Hatfield.	
Matthews Duncan Medal	J. L. Maxwell.	
Brackenbury Surgical Scholarship.	H. Mundy.	
Brackenbury Medical Scholarship.	C. Riviere.	
Lawrence Scholarship and Gold Medal	T. J. Horder.	

Afterwards Mr. Power delivered a short appropriate address. Dr. Church proposed and Dr. Moore seconded a vote of thanks to Mr. Power, which was carried by acclamation. Sir Dyce Duckworth proposed a vote of thanks to Mr. Coleman for presiding, and the proceedings terminated.

Reviews.

OVARIOTOMY AND ABDOMINAL SURGERY, by HARRISON CRIPPS, F.R.C.S. London: J. & A. Churchill, 25s.

Mr. Cripps has performed the operation of abdominal section nearly a thousand times; in this volume he honestly and concisely reviews the results of his work, and in the light of his own experience deduces the principles and elaborates the details which make for success in this branch of surgery.

The book could have been written by no one but a surgeon of great experience, who has thought deeply and clearly over what he has seen, and who has been strong enough to reject the traditions of his art, when these do not rest upon a foundation of reason.

Mr. Cripps's work commences with Chapter II; here we have a description of the Martha Theatre, and a practical account of the measures necessary to insure asepsis at the operation. One or two points which are apt to escape observation, but which are of importance, are emphasised—notably details of lighting and ventilating and of the arrangements of the taps and basins.

We cannot agree with the method of preparation of the patient's skin advocated—in 20 carbolic acid is an extremely irritating dressing, and superficial sloughing on more than one occasion has followed its use. We believe also the use of turpentine or ether in removing the fat and sebaceous material to be essential to insure asepsis. The chapter on the diagnosis of ovarian tumours is perhaps disappointing, and indeed throughout the book the sections dealing with diagnosis do not reach the high standard of excellence attained by those which deal with operative measures. This is no doubt due to a great extent to the impossibility of teaching diagnosis in any other way than at the bedside. In a text-book the method of exclusion has to be almost entirely employed, whereas the successful practice lies in observing facts and drawing simple deductions from them. Two important omissions strike one in reading the chapter: in the diagnosis of ovarian cyst from obesity, the condition of the umbilicus is not mentioned; and in the case of uterine fibroids, the help which can be obtained from the passage of the bladder sound is ignored. The chapters devoted to ovariectomy and its complications are perhaps the most valuable part of the book, and form a masterly contribution to the literature of the subject. We know of no article which so clearly sets forth the complications of this often most difficult operation, and which gives so much valuable help in dealing with them.

Mr. Cripps pleads earnestly for the long incision, but surely the argument "hernia nearly always occurs at the lower angle of the wound whilst incisions are extended upwards" contains a fallacy.

The chapter on the after-treatment is excellent, and the description of the troublesome symptoms which may occur is very true to nature. Shock, vomiting, gaseous distension of intestines, the three commonest difficulties, are given their due prominence, whilst rarer complications are also discussed. Hysterectomy by the extra- and intra-peritoneal methods is fully discussed, and the operation of abdominal hysterectomy for carcinoma of the cervix finds a place, but the enormous mortality of this procedure, even in the hands of most experienced surgeons, is scarcely sufficiently emphasised.

The author's work upon intestinal obstruction, both in its acute and chronic form, is so well known that to many of the subscribers of this JOURNAL the chapters devoted to these subjects will be familiar reading. Inguinal colotomy, which Mr. Cripps has done so much to place upon its present firm basis, receives a careful and full description, the chapter being an abridgment from the author's book on rectal cancer; the various forms of intestinal anastomosis are discussed and described. The surgery of the kidney has been entrusted to Mr. Bruce Clarke, who in a chapter of only thirty pages gives a general survey of the subject. Mr. Lockwood has written upon the radical cure of hernia a most valuable chapter, in which he draws attention to the classes of cases which are not suitable for operation, and gives a full description of that modification of Bassini's operation which his large experience has taught him to regard as the best. The anatomy of the abdomen has been described by Mr. Waring; it is difficult to see what has been the precise object in inserting this section—it is a chapter of descriptive anatomy, which more fittingly finds a place in works devoted to that subject, and attention has not been especially directed to points of surgical importance.

A word of praise is due to the printing and binding of the book; the illustrations in the text are both artistic and accurate. We congratulate Mr. Cripps most heartily upon the production of this volume; the style is clear, and the English is good. Experienced

surgeons cannot fail to learn much from it, and to those whose operating days are just beginning it will prove invaluable.

SIR BENJAMIN BRODIE, by TIMOTHY HOLMES, M.A., F.R.C.S. (Masters of Medicine Series). (London: Fisher Unwin and Co. Price 3s. 6d.)

We have learnt to expect excellent and interesting books in this series, and Mr. Holmes' biography certainly forms no exception. Sir Benjamin Brodie filled such a prominent position in the profession in his day and had so commanding a personality that he naturally provides an excellent topic on which to discourse. His portrait (from Watts's picture) which adorns the book expresses the man, thoughtful, powerful, and successful. He was an indefatigable worker from the early days in Abernethy's anatomy class, where he formed a warm friendship with Lawrence through the weary days of waiting on to the full tide of success, culminating in his election to the presidency of the General Medical Council and of the Royal Society in the same week. Every honour open to the profession crowned his days.

Brodie was a student at a time when medical training was largely unorganised, and he lived to see the day when, largely through his agency, the outlines of the present system were laid down. He early discovered the bad effects of the apprentice system, and laboured to make clinical teaching one of the responsible duties of the whole medical and surgical staff of the hospital. He learned from Jeffreys the great value of note-taking in clinical work, impressing its importance on all his students, and was the first to appoint clinical clerks in the wards. He agitated for the abolition of that system of life examinations at the College of Surgeons so advantageous to methods of "cram," and added to the status of the College by the introduction of the diploma F.R.C.S.

His contributions to medical literature were of great value in their time, especially his work on "Diseases of the Joints," the first attempt at a scientific study of the subject. In this he calls attention to the question of neurotic affections of the joints, which of late has come so much to the fore. Scarcely inferior in value are his works on diseases of the urinary organs, and on the treatment of drowning. It is difficult to realise that books so philosophic in tone were penned amid the distractions of the largest surgical practice in London in that day.

Mr. Holmes has played his part well. He has enriched his book with interesting sketches of St. George's Hospital and its distinguished men of the time—Dr. Matthew Baillie, for instance, and Dr. Thomas Young, better known for his researches in optics, but no mean physician, as evinced in his advocacy of rational treatment in the days of "heroic" remedies. The thorny subject of Sir Everard Home is also handled judiciously. Moreover we have Mr. Holmes' comments on many important points, such as the mode of medical education and examinations, on homeopathy and other forms of quackery, and on the manifest drawbacks in having a large and inexperienced electorate to the staff of hospitals. Altogether a most interesting book.

Appointments.

BILL, J. F., M.B.Lond., M.R.C.S., L.R.C.P., appointed Senior House Surgeon to the London Temperance Hospital.

* * *

HEATH, CHARLES J., F.R.C.S., appointed Surgeon to the Throat Hospital, Golden Square, London.

* * *

HEDGES, C. E., M.A., M.B., B.C.Cantab., M.R.C.S., L.R.C.P., appointed Medical Officer for the Workhouse and 1st District of the Newport (Salop) Union.

* * *

THORNE THORNE, LESLIE, M.D., B.S.Durh., M.R.C.S., L.R.C.P., appointed Medical Examiner to the Technical Education Board of the London County Council.

* * *

WAGGETT, ERNEST B., M.B., appointed Surgeon-Lieutenant, Medical Staff Corps, in the London Companies.

WHITE, C. P., M.B., B.C.Camb., F.R.C.S.Eng., L.R.C.P.Lond., M.R.C.S., appointed a Demonstrator of Pathology for the Department of Medicine of the Yorkshire College.

* * *

WOODD, CHARLES S., L.S.A., has been appointed Medical Officer for the Watermen's and Lightermen's Asylum at Penge, S.E., *vice* C. George Woodd, resigned.

Examinations.

UNIVERSITY OF LONDON.—*Intermediate Examination: Second Division.*—H. A. Colwell, E. W. J. Ladell, E. V. Lindsey, J. A. Lloyd, F. N. White. *Excluding Physiology: Second Division.*—S. B. Green, R. A. Lloyd, E. C. Mackay, C. H. D. Robbs, J. J. S. Scrase, A. S. Woodwark. *Physiology only.*—N. C. Beaumont, A. B. Brown, E. M. Niall, T. M. Pearce, E. Wethered. *Third Class Honours in Materia Medica.*—F. Gröne.

Preliminary Scientific Examination.—

Entire Examination: First Division.—A. F. Foster, A. Hamilton, T. H. Harker. *Second Division.*—G. E. Aubrey, T. Bates, E. G. D. Milsom. *Chemistry and Physics.*—W. C. F. Harland, O. E. Lord. *Biology.*—A. C. Brown, E. S. Ellis, H. Falk, J. Ferguson, R. Holtby, N. Macfadyen, A. R. Neligan, J. M. Plews, F. Weber, A. D. White, L. L. Winterbotham, T. B. Davies, C. R. Keed.

Intermediate Science and Preliminary Scientific conjointly: Third Class Honours in Inorganic Chemistry and Zoology.—C. C. Robinson.

UNIVERSITY OF ABERDEEN.—*Degree of M.D.*—David Ross.

CONJOINT BOARD.—*First Examination: Chemistry.*—F. S. Lister, A. J. L. Speechley, L. R. Tossell, G. C. J. Acres, A. H. Bateman, J. G. de G. Best, J. W. Cleveland, J. Corbin, F. R. Coudrey, A. Hallows, C. W. C. Harvey, F. Harvey, E. C. Hodgson, J. G. Ingouville, C. F. Nicholas, C. V. Nicoll, N. M. Wilson, J. E. L. A. Turnly, A. P. Salt, H. E. Stanger-Leathes. *Practical Pharmacy.*—F. S. Lister, C. H. R. Ball, F. W. Jackson, G. Hughes, W. E. L. Davies, E. A. Donaldson-Sim, G. S. Ewen, T. H. Fowler, H. S. Greaves, P. B. Grenfell, A. C. Young, E. O. Hughes, C. R. Keed, G. J. A. Leclezio, H. M. H. Melhuish, H. Mills, F. D. Parbury, T. C. Neville, D. S. Sandiland, W. H. Scott, E. B. Smith, A. E. Thomas, R. J. P. Thomas, H. V. Wenham, C. C. K. White, A. T. Compton. *Elementary Biology.*—H. M. Huggins, C. W. O'Brien, A. J. L. Speechley, G. Hughes, L. B. Bigg, A. H. Bloxsome, A. O'Neill, R. C. Wilmot.

Second Examination: Anatomy and Physiology.—C. H. Turner, R. Thompson, H. H. Sloane, E. L. Martin, H. E. G. Boyle, M. B. Scott, G. H. Low, W. G. Paget, G. M. Seagrove, C. E. Hogan, L. E. Hughes, V. G. Heseltine, J. H. Wroughton, V. J. Duigan.

The following having passed all the subjects of the Final Examination have received Diplomas.—W. D. Harmer, G. Wedd, P. J. Cammidge, G. F. Briggs, B. E. Myers, K. R. Hay, J. K. S. Fleming, G. E. Gask, W. H. Cazaly, J. J. Hogan, A. O. B. Wroughton, J. Dalebrook, H. E. Waller, G. P. Tayler, G. B. Nicholson, G. E. French.

SOCIETY OF APOTHECARIES.—*Medicine (Section II).*—G. C. Hobbs.

Pathological Department of the Journal.

SPECIMENS sent by subscribers only to the JOURNAL will be examined in the Pathological Laboratory, and a report furnished under the supervision of Dr. Andrewes, at the following rate:

Ordinary examination, Bacteriological or Pathological, such as tumour, membrane, or sputum	2 6
Ordinary (qualitative) urine examination	2 6

Any further report will be charged at a special rate. If a mounted specimen be desired an extra charge of 1s. will be made. If a telegraphic report be required the cost of the telegram will be charged in addition.

Specimens must be accompanied by the fee and a stamped addressed envelope, in which the report will be sent as soon as possible. Specimens, with, if possible, a short history of the case, must be addressed to "The Manager of the Journal," with "Patho-

logical Department" written in some conspicuous place on the wrapper.

On application to J. Russell, Museum Assistant, a set of bottles containing hardening fluids, and ready for sending away by post, can be obtained on remitting a postal order for 2s. 6d.

Correspondence.

To the Editor of the St. Bartholomew's Hospital Journal.

SIR,—The majority of the attendants at the Medical School held their first annual outing on Sunday, July 10th, 1898. They left Cannon Street at 9 o'clock, and arrived at Sandgate at 11.15. After a pleasant stroll by the sea they adjourned to the Grosvenor Hotel, where a most excellent dinner was provided at 1 o'clock. After dinner a trip was made to Folkestone and back to the above hotel in time for tea. Having spent the first annual outing in such a pleasant manner, the hope was expressed by the attendants that on some future occasion it might be possible for arrangements to be made that would enable them to go on Saturday instead of Sunday.

E. W. HALLETT, }
ED. BRIDLE, } *Stewards.*

Birth.

KEOGH MURPHY.—On July 17th, at Princes Square, W., the wife of J. Keogh Murphy, M.B.Camb., L.R.C.P.Lond., M.R.C.S., of a son.

Marriages.

DALBY—JEX.—On July 25th, at St. Paul's, Brighton, by the Rev. J. H. Ashley Gibson, M.A., John Lyttleton, of Norfolk House, 13, Buckingham Road, Brighton, only son of Major N. B. Dalby, of Ealing, to Mary, daughter of Mrs. B. Jex, of 44, First Avenue, Hove, late of British Honduras. No cards. At home Oct. 1st and 8th, 4 to 6.

EDELSTEN—MUSKETT.—On August 10th, at the Parish Church, Corfe Mullen, Dorset, by the Rev. Elliott-Drake Briscoe, M.A., assisted by the Rev. R. Plumtre, M.A., Rector of the Parish, and the Rev. F. L. Schreiber, M.A., Ernest A. Edelsten, M.B., M.A.Oxon., of Brixton, S.W., eldest son of L. Malin Edelsten, Esq., of Grappenhall, Cheshire, to Catherine Helen, daughter of the late John Musket, Esq., of Diss, Norfolk, and of Mrs. Moon, of Corfe Lodge, Wimborne, and granddaughter of the late John Gould, Esq., F.R.S.

HENDLEY—PETRIE.—On July 7th, at the Parish Church, Eastbourne, by the Rev. J. H. Copleston, Rector of Offwell, Devon, assisted by the Rev. H. B. Ottley, Vicar of the Parish, Surgeon-Captain Arthur Gervase Hendley, I.M.S., youngest son of the late Surgeon-General John Hendley, C.B., to Jessie Graham, eldest daughter of J. H. Petrie, Esq., 5, South Cliff, Eastbourne.

MACKINTOSH—BALLARD.—On June 18th, at Christ Church, Lancaster Gate, W., John Stewart Mackintosh, M.R.C.S., L.R.C.P., to Alice Emmeline, daughter of the late Edward Ballard, M.D., F.R.C.P., F.R.S.

MAHOOD—SCOTT.—On July 6th, at Northam Church, Allan Edward Mahood, M.B., F.R.C.S., of Odun House, Appledore, to Caroline Eva Stanley, eldest daughter of the late Lieut.-Col. Stanley Scott, Bombay Staff Corps, formerly of Northam House, Northam, North Devon.

ACKNOWLEDGMENTS.—*Guy's Hospital Gazette, Nursing Record, L'Echo Médical, St. George's Hospital Gazette, St. Thomas's Hospital Gazette, St. Mary's Hospital Gazette, The Stethoscope, Middlesex Hospital Gazette, The Hospital.*